PANASONIC NV - L10E

MODEL

SERVICE MANUAL

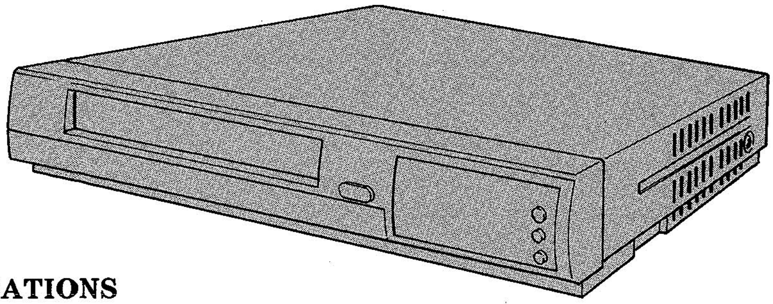
Service Manual

Video Cassette Recorder

Panasonic VHS PAL HQ

NV-L20E

General Description
Adjustment Procedures
Block / Schematic Diagrams
Exploded Views / Parts List



SPECIFICATIONS

ITEM	SPECIFICATION	
POWER	SOURCE: 220V 50/60Hz	
	CONSUMPTION: 22W	
RECORDING SYSTEM	2 rotary heads, helical scanning system	
	PAL	
TV TUNER SYSTEM	NV-L20EO/EV	VHF I : CHE2~CHE4 VHF III: CHS4~CHE12 VHF H: CHS11~CHS41 (PAL B) 75Ω unbalanced UHF: CH21~CH69 (PAL G) 75Ω unbalanced
	NV-L20EE	VHFI: PAL/SECAM B. G; CHE2~CHS3 SECAM OIRT; CH1~CH5 VHFIII: PAL/SECAM B. G; CHM1~CHU10 SECAM OIRT; CH6~CH12 75Ω unbalanced UHF: PAL/SECAM B. G, SECAM OIRT; CH21~CH69 75Ω unbalanced
RF OUT SYSTEM	UHF: CH36±4 (PAL G) 70^{+2}_{-3} dBμ, 75Ω terminated (NV-L20EO/EV) UHF: CH36±4 (PAL/SECAM B. G, SECAM OIRT) 73±3dBμ, 75Ω terminated (NV-L20EE)	
VIDEO	HEADS: 3 rotary heads 1 pair for recording, playback (L-R heads) 1 pc. for trick play (L′ heads)	
	INPUT: VIDEO IN Connector (PHONO type) 1.0Vp-p, 75Ω terminated (NV-L20EE) EURO AV Connector (21 pin) 1.0Vp-p, 75Ω terminated (NV-L20EO/EV)	

ITEM	SPECIFICATION
VIDEO	OUTPUT: VIDEO OUT Connector (PHONO type) 1.0Vp-p, 75Ω terminated (NV-L20EE) EURO AV Connector (21 pin) 1.0Vp-p, 75Ω terminated (NV-L20EO/EV)
AUDIO	HEAD: 1 Stationary head (Normal Audio)
	INPUT: AUDIO IN Connector (Phono type) More than −10dBV (316mV), more than 50kΩ (NV-L20EE) EURO AV Connector (21 pin) More than −10dBV (316mV), more than 10kΩ (NV-L20EO/EV)
	OUTPUT: AUDIO OUT Connector (Phono type) −6dBV (500mV), Less than 1kΩ (NV-L20EE) EURO AV Connector (21 pin) −6dBV (500mV), Less than 1kΩ (NV-L20EO/EV)
TAPE FORMAT	VHS Cassette tape (Tape width 12.7mm)
TAPE SPEED	23.39mm/s Record/Playback Time: 4 hours with 240min. type tape FF/REW Time 5.5min. with 180min. type tape
DIMENSIONS	380(W)×82(H)×343.5(D)mm
WEIGHT	5.0kg
STANDARD ACCESSORIES	1 pc. DIN-RF Cable 1 pc. Infra-red remote controller (Build in Digital Scanner type) 1 pc. Programme sheet 1 pc. AC Cord
OPTIONAL ACCESSORIES	VW-VPS5 (NV-L20EO ONLY)

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

Panasonic

Matsushita Electric Industrial Co., Ltd.
Central P.O. Box 288, Osaka 530-91, Japan

INTRODUCTION

This service manual contains technical information which will allow service personnels to understand and service this model.
Section 1 presents you with some general information of features and controls, enabling you to become familiar with each function.
Section 2 contributes to your mechanical and electrical adjustment as well disassembly and replacement procedures.
In the case of very common information relating to other models like mechanical adjustments, please refer to each service manual.
Section 3 contains block diagrams which offers you information for checking and understanding each circuit. Schematic diagrams which give you detailed information such as waveforms, voltage data, function e.t.c...
Section 4 contains exploded views and parts list.
Please place orders using the parts list and not the drawing reference numbers.
If the circuit is changed or modified, this information will be followed by supplementary service manual to be filed with original service manual.

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MECHANICAL REPLACEMENT PARTS LIST
ELECTRICAL REPLACEMENT PARTS LIST

REMARKS (NV-L20EE)

1. It is possible to receive, record and play back colour broadcasts from East Germany (DDR) on this video recorder.
2. When a video tape that was recorded with a colour TV broadcast from East Germany on this VTR is played back on a SECAM (France) or on a PAL VTR, the picture may be in black and white.
3. When a video tape recorded on a SECAM (France) VTR or a SECAM (France) pre-recorded video tape is played back on this VTR, the picture is in black and white.

Technical Information

Subject: How to install the VPS DECODER (VW-VPS5)

To install the optional VPS Decoder (VW-VPS5), consult your Panasonic dealer.

❶ Do not connect the video recorder to the mains outlet.

❷ Unfasten the two screws of the cabinet cover and remove the cabinet cover.

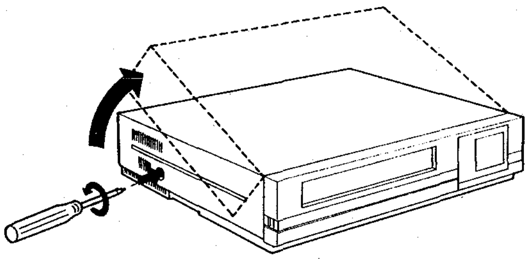
❸ Confirm the position where the VPS Decoder is to be inserted on the main printed circuit board and melt and remove the solder in the rectangular hole.

❹ Remove the two screws on the back of the unit and the three screws on the upper side of the main printed circuit board. Push down the clip at an angle, so that the main printed circuit board will be released.

❺ Lift the main printed circuiit board up into vertical position, insert the VPS Decoder and solder it.

❻ Reassemble the VTR.

❷



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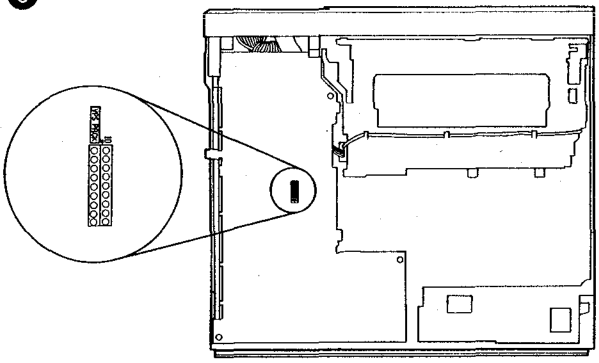

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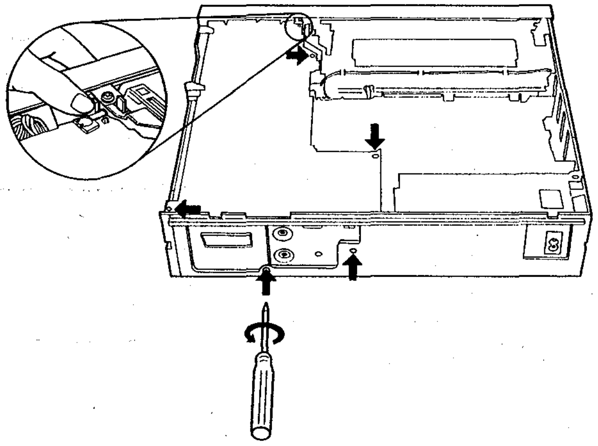

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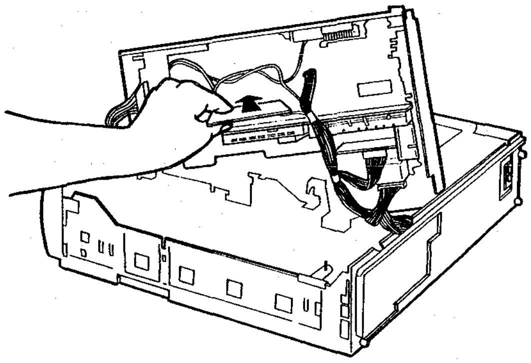
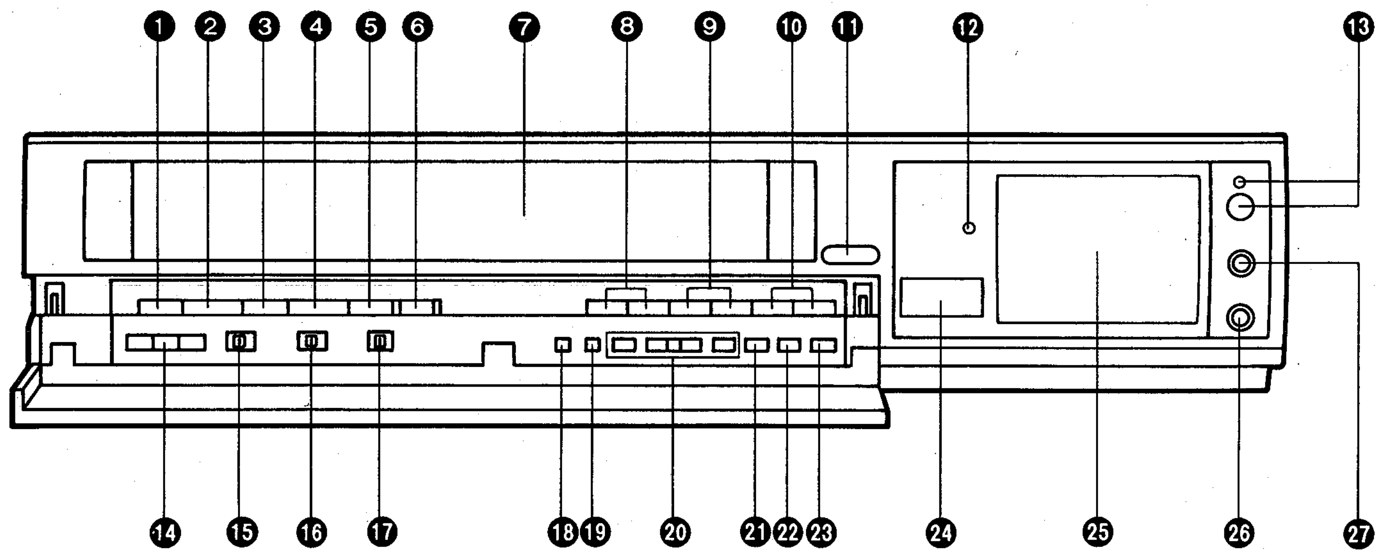


SECTION 1
GENERAL DESCRIPTIONS

1-1. CONTROLS AND COMPONENTS

FRONT



① Rewind ◀◀/Review [◀◀] Button

② Play/×2 Button (▶)

③ Fast Forward ▶▶/Cue [▶▶] Button

④ Stop Button (■)

⑤ Pause/Still Button (❚❚)

⑥ Record Button (●)

⑦ Cassette Compartment

⑧ Channel Selection Up and Down Buttons

⑨ OTR On Buttons

⑩ OTR Off Buttons

⑪ Eject Button (⏏)

⑫ Digital Tracking Indicator

⑬ VTR On/Off Switch with Indicator

⑭ Picture Sharpness Control

⑮ Noise Filter/Edit Selector

EDIT ON: For editing operations such as dubbing.
OFF: For ordinary use of the VTR.
NOISE FILTER ON: For playback of tapes with inferior picture quality caused, for example, by repeated dubbing.

- When the Noise Filter/Edit Selector is set to "EDIT ON", the picture sharpness cannot be adjusted with the Picture Sharpness Control.

⑯ TV System Selector (NV-L20EE)

TV System Selector
Set the TV System Selector to the TV system ("PAL/SECAM B•G" or "SECAM OIRT") which is used by the station to be tuned in , or set it to "AUTO".
"AUTO" Position:
The VTR will automatically select the correct TV system for the selected station.
"SECAM OIRT" Position:
For Poland, the USSR and other COMECON countries except the DDR and Yugoslavia.
"PAL/SECAM B•G" Position:
For the DDR, Yugoslavia and other European countries.

- If the broadcast signal reception is not good or if the sound is not satisfactory during playback when the TV System Selector is in the "AUTO" position, set the selector to "SECAM OIRT" or to "PAL/SECAM B•G".

⑰ Digital Tracking On/Off Switch

Digital Tracking
ON: Select this position for digital tracking.

Under the following conditions, the digital tracking function will be activated, the Digital Tracking Indicator will flash for several seconds, and the tracking will be adjusted automatically (after the adjustment, the Tracking Indicator will remain lit):

- When playback is started after inserting a cassette, and the VTR is turned on, the Digital Tracking function will be activated automatically.
- Press the Tracking (+) and (−) Buttons simultaneously to activate this function.
- During playback, the Digital Tracking function will be activated whenever the playback changes over from an unrecorded part to a recorded part, provided the recorded part is longer than 4 seconds.

- If the Tracking (+) or (−) Button is pressed during digital tracking, the VTR changes over to manual tracking, and the Digital Tracking Indicator will go out.

Manual Tracking
OFF: Select this position for manual tracking.

- When the playback picture is distorted by noise bars, adjust by pressing the Tracking (+) or (−) Button.
- To return the tracking control to the former setting, press the Tracking (+) and (−) Button simultaneously.

⑱ Clock Button

⑲ Preset/Fine/Normal Button

⑳ Timer Controls

㉑ Band/AFC Button (NV-L20EE)
AFC/VPS Button (NV-L20EO/EV)

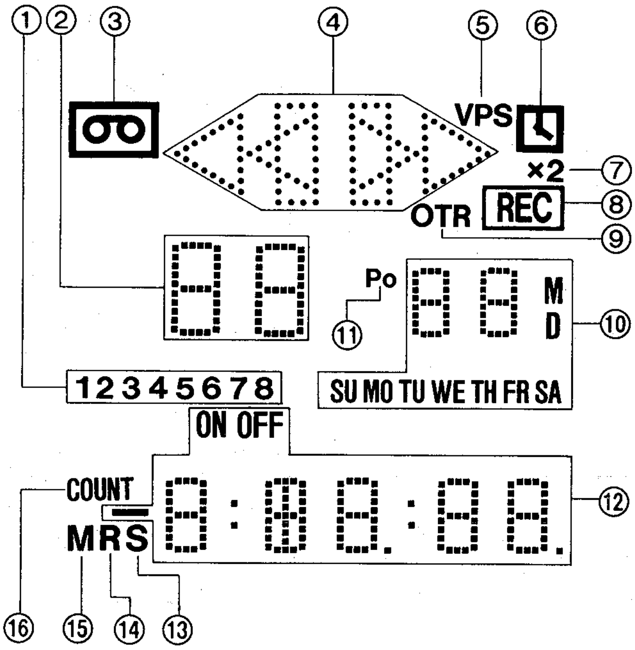
㉒ Clear Button

㉓ Timer Record Button

㉔ Infra-red Remote Control Receiver

㉕ Multi-Function Display

Multi-Function Display



① Timer Programme Number

② Channel Display

③ Cassette-in Indicator

④ Tape Running Display

⑤ VPS Indicator (NV-L20EO/EV)

⑥ Timer Recording Indicator

⑦ Double Speed Indicator

⑧ Recording Indicator

⑨ OTR Indicator

⑩ Date Display

⑪ Position Indicator

⑫ Tape Counter Indicator

⑬ Search Indicator

⑭ Repeat Indicator

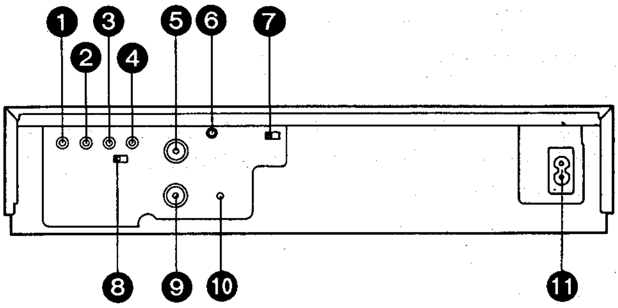
⑮ Memory Indicator

⑯ Counter Mode Indicator

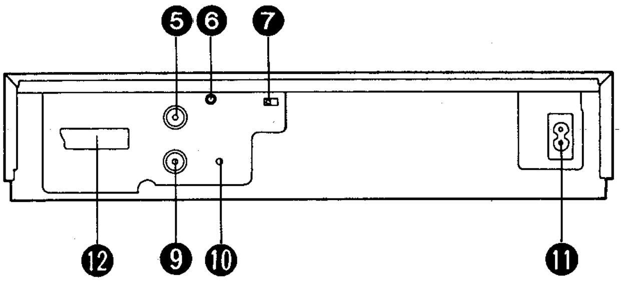
㉖ Reset Button

㉗ Clock/Counter Selector

REAR



(NV-L20EE)



(NV-L20EO/EV)

① Audio Input Socket (NV-L20EE)

② Video Input Socket (NV-L20EE)

③ Audio Output Socket (NV-L20EE)

④ Video Output Socket (NV-L20EE)

⑤ RF Output Socket

⑥ Vertical Lock Controls

If vertical jitter occurs during Still playback, adjust the V-Lock Control (on the rear of the VTR) with a screw driver. A one-time adjustment should be all that is necessary.

⑦ Test Signal Switch

⑧ RF Selector Switch (NV-L20EE)

Use the RF Selector to select the colour TV system used by the TV set to be connected.

Select the switch PAL/SECAM B•G or SECAM OIRT.

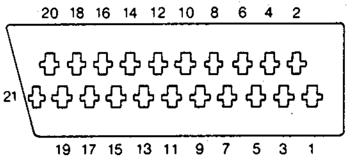
⑨ RF Input Socket

⑩ Video Playback Channel Selector

- If UHF channel 36 is already occupied by a TV station in your area, the video playback channel can be changed from channel 32 to 40 on the back of the VTR by using a small screwdriver.

⑪ AC Mains Lead Socket

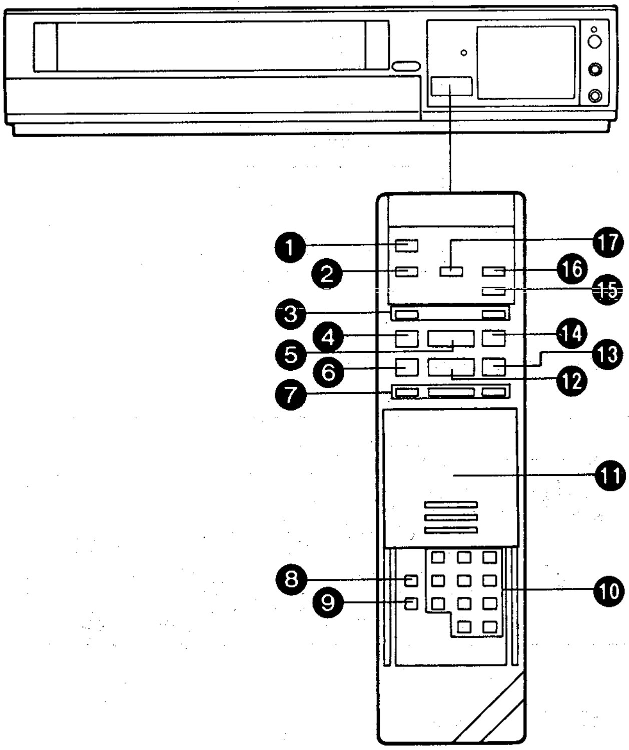
⑫ **Connections of the Euro AV Socket**



1	AUDIO OUTPUT CH2 (R)
2	AUDIO INPUT CH2 (R)
3	AUDIO OUTPUT CH1 (L)
4	AUDIO GND
5	No connection
6	AUDIO INPUT CH1 (L)
7	No connection
8	SWITCHING VOLTAGE
9	No connection
10	No connection
11	No connection
12	No connection
13	No connection
14	No connection
15	No connection
16	No connection
17	VIDEO GND
18	No connection
19	VIDEO OUTPUT
20	VIDEO INPUT
21	GND

1-2. INFRA-RED REMOTE CONTROLLER

Part Number: VEQ0930 (NV-L20EO/EV)
VEQ0932 (NV-L20EE)



① **VTR On/Off Button**

② **Clock Counter Selector**

③ **Record Buttons (●)**

❹ **Pause/Still Button (❚❚)**

❺ **Stop Button (■)**

❻ **Rewind ◀◀/Review ⏪ Button**

❼ **Slow Buttons**

❽ **Time Search Button**

❾ **Monitor Button**

❿ **Programme Position (Channel) Selector Buttons**

⓫ **Mode Selector Cover**

⓬ **Play/×2 Button (▶)**

⓭ **Fast Forward ▶▶/Cue ⏩ Button**

⓮ **Still Advance Button (❚❚▶)**

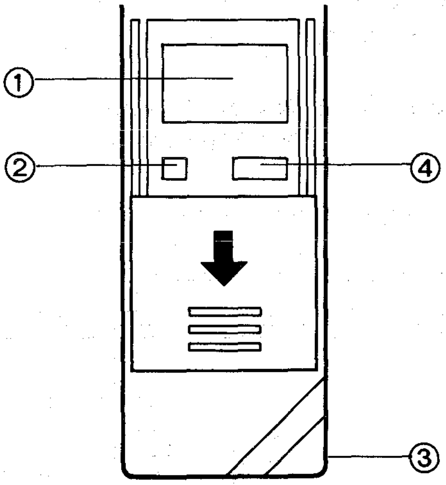
⓯ **Reverse Play Button**

⓰ **Memory/Repeat/Search Button**

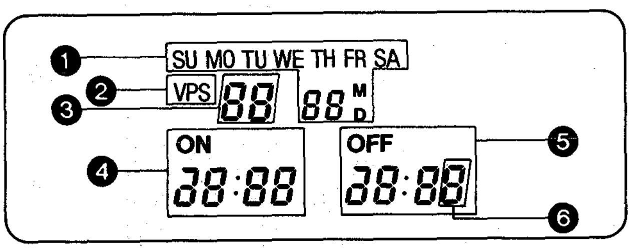
⓱ **Reset Button**

Use as Digital Scanner

Slide the Mode Selector Cover downward.



① **Bar Code Reader Display**



❶ Date Display

❷ VPS Indicator (NV-L20EO/EV)

❸ Channel Display

❹ Start Time Display

❺ End Time Display

❻ Check Indicator

② **Digital Scanner On/Off Button**

③ **Bar Code Reading Section**

④ **Transmit Button**

Note:
To be able to use the unit as Remote Controller, press the Digital Scanner On/Off Button (the indications in the LCD Display will disappear).

SECTION 2

ADJUSTMENT PROCEDURES

2-1. DISASSEMBLY METHOD

2–1–1.DISASSEMBLY FLOW CHART

This flowchart indicates disassembly steps of the cabinet parts and circuit boards in order to find the necessary items for servicing.
When reassembling, perform the steps in the reverse order.

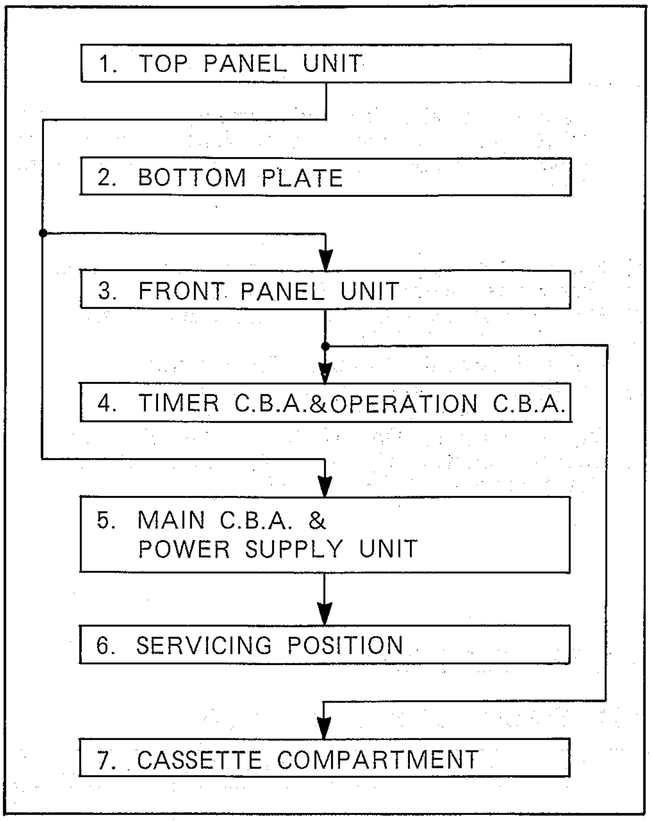

1. TOP PANEL UNIT
2. BOTTOM PLATE
3. FRONT PANEL UNIT
4. TIMER C.B.A.&OPERATION C.B.A.
5. MAIN C.B.A. &
POWER SUPPLY UNIT
6. SERVICING POSITION
7. CASSETTE COMPARTMENT

Fig.D1

2–1–2.DETAIL OF DISASSEMBLE METHOD

1. REMOVAL OF THE TOP PANEL UNIT

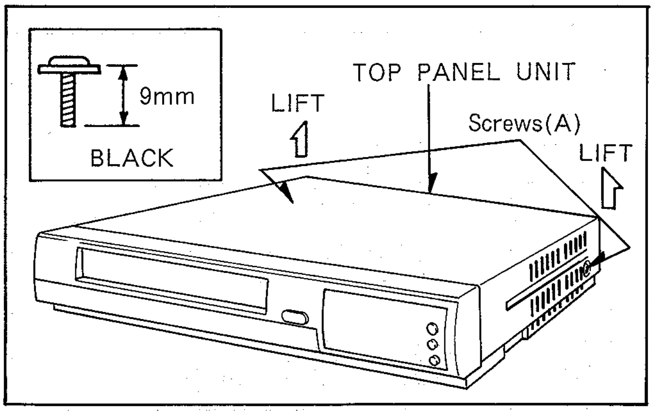

9mm
BLACK
TOP PANEL UNIT
LIFT
Screws(A)
LIFT

Fig.D2

Remove.....2 Screws(A)

2.REMOVAL OF THE BOTTOM PLATE

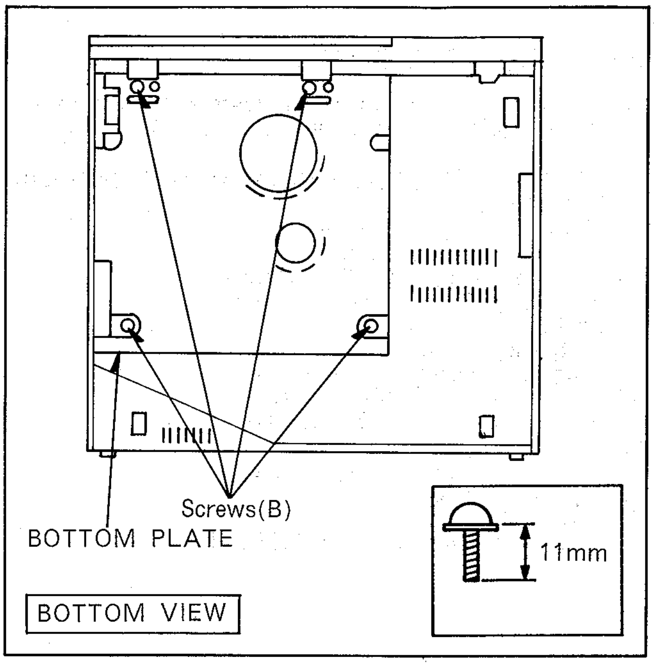

Screws(B)
BOTTOM PLATE
11mm
BOTTOM VIEW

Fig.D3

Remove.....4 Screws(B)

3.REMOVAL OF THE FRONT PANEL UNIT

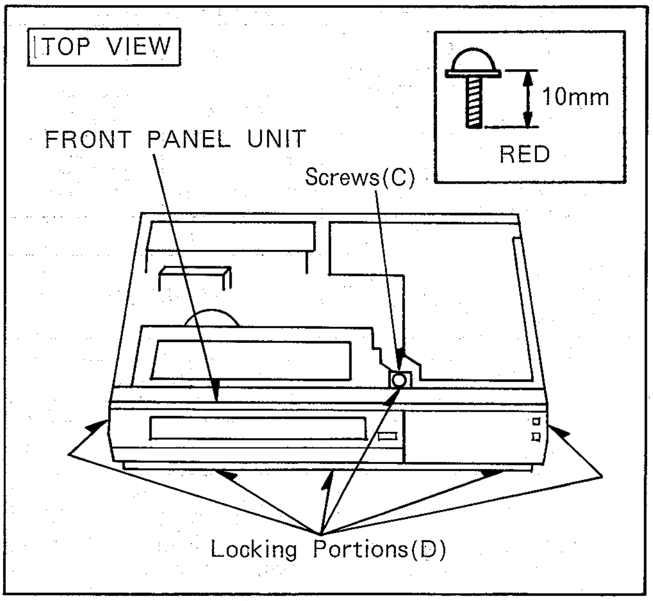

TOP VIEW
10mm
RED
FRONT PANEL UNIT
Screws(C)
Locking Portions(D)

Fig.D4

move..... Screw(C)
Unlock..... 6 Locking Portions(D)

4. REMOVAL OF THE TIMER C.B.A. AND OPERATION C.B.A.

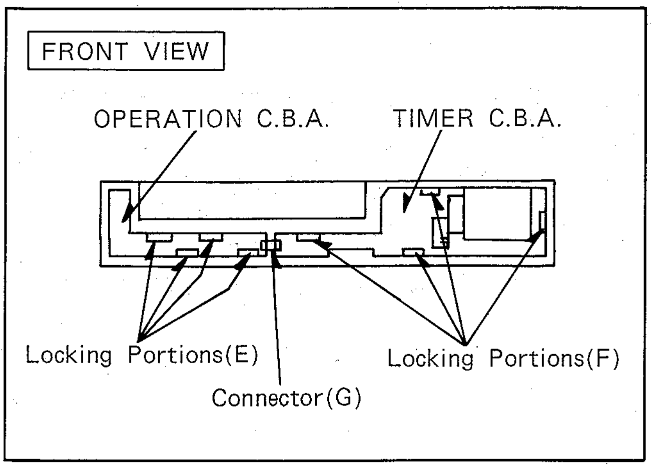

FRONT VIEW
OPERATION C.B.A.
TIMER C.B.A.
Locking Portions(E)
Locking Portions(F)
Connector(G)

Fig.D5

REMOVAL OF THE OPERATION C.B.A.

Unlock.....4 Locking Portions(E)
Disconnect.....Connector(G)

REMOVAL OF THE TIMER C.B.A.

Unlock.....4 Locking Portions(F)

NOTE: HOW TO REMOVE THE CONNECTOR (G).

> When removing the connector(G), carefully lift the top portions(H) of connector to remove.

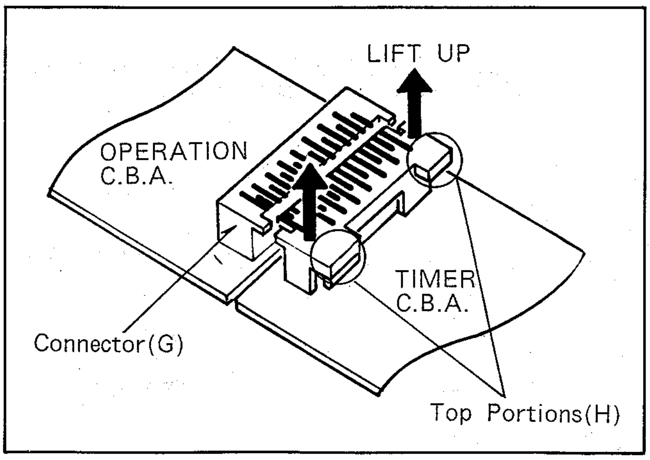

LIFT UP
OPERATION C.B.A.
TIMER C.B.A.
Connector(G)
Top Portions(H)

Fig.D6

NOTE:
If the connector is turned for checking the operatrion C.B.A. and Timer C.B.A.,the short circuit could be made between reed wires.
Be sure there is no short circuit between reed wires and check the both Operation & Timer C.B.As.

5. REMOVAL OF THE MAIN C.B.A. AND POWER SUPPLY UNIT

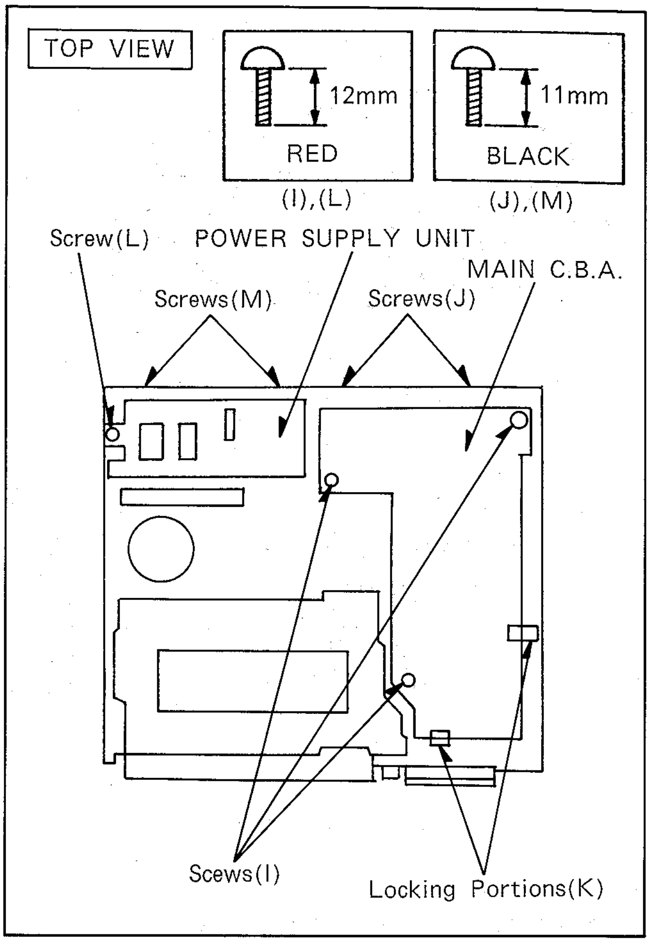

TOP VIEW
12mm
RED
(I),(L)
11mm
BLACK
(J),(M)
Screw(L)
POWER SUPPLY UNIT
MAIN C.B.A.
Screws(M)
Screws(J)
Scews(I)
Locking Portions(K)

Fig.D7

REMOVAL OF THE MAIN C.B.A.

Remove..... 3 Screws(I) and 2 Screws(J)
Unlock..... 2 Locking Portions(K)

REMOVAL OF THE POWER SUPPLY UNIT

Remove.....Screw(L) and 2 Screws(M)

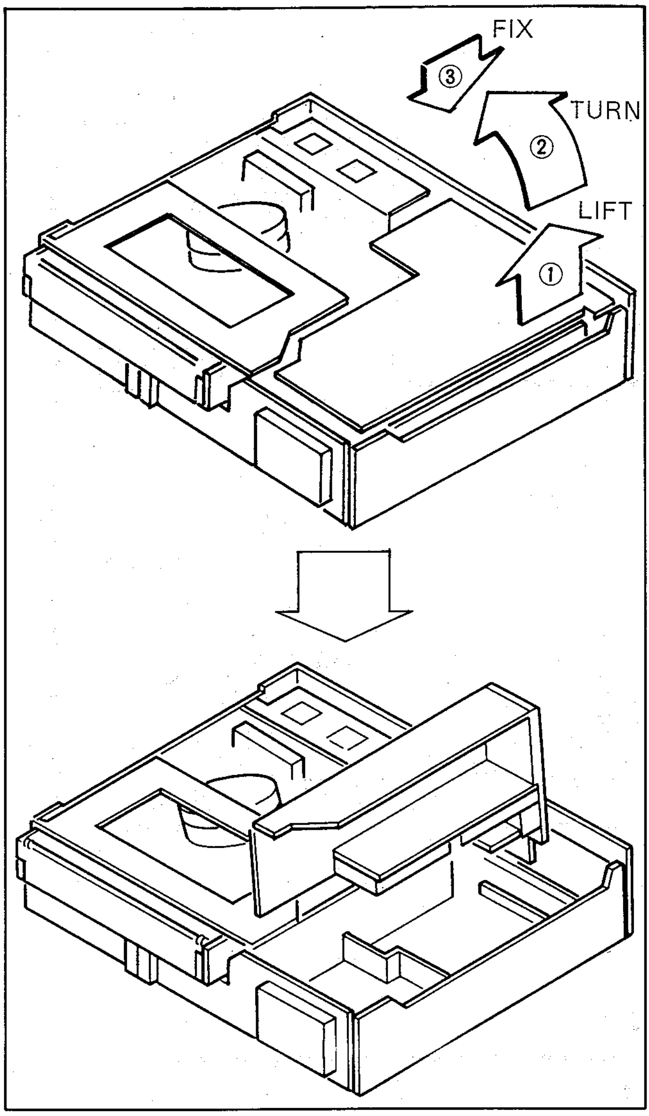

③
FIX
②
TURN
①
LIFT

Fig.D8

7. REMOVAL OF THE CASSETTE COMPARTMENT

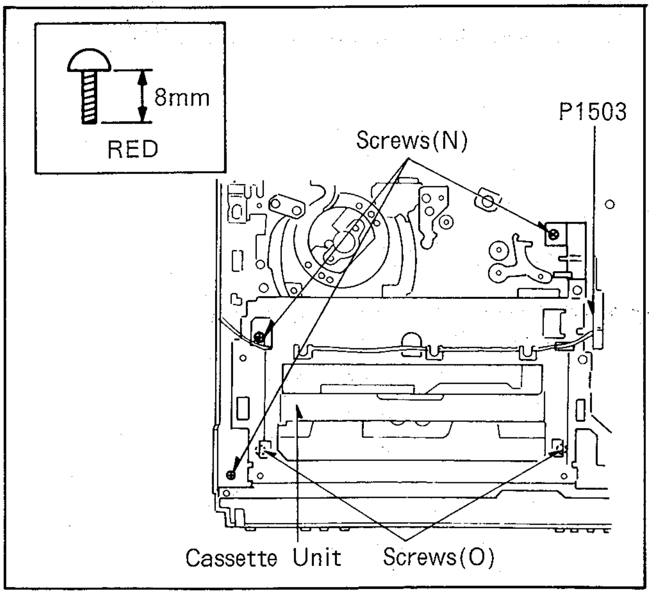

8mm
RED
P1503
Screws(N)
Cassette Unit
Screws(O)

Fig.D9

Remove the 3 screws(N).
Slide the cassette holder until appearing 2 screws(O) by turning (clockwise) the Capstan Rotor Unit (located in the bottom side as shown in Fig.D10) and remove the 2 screws(O).
Remove the wire cable from connector P1503 mounted on Take-up Photo Tr. C.B.A. , then carefully pull out the Cassette Compartment.

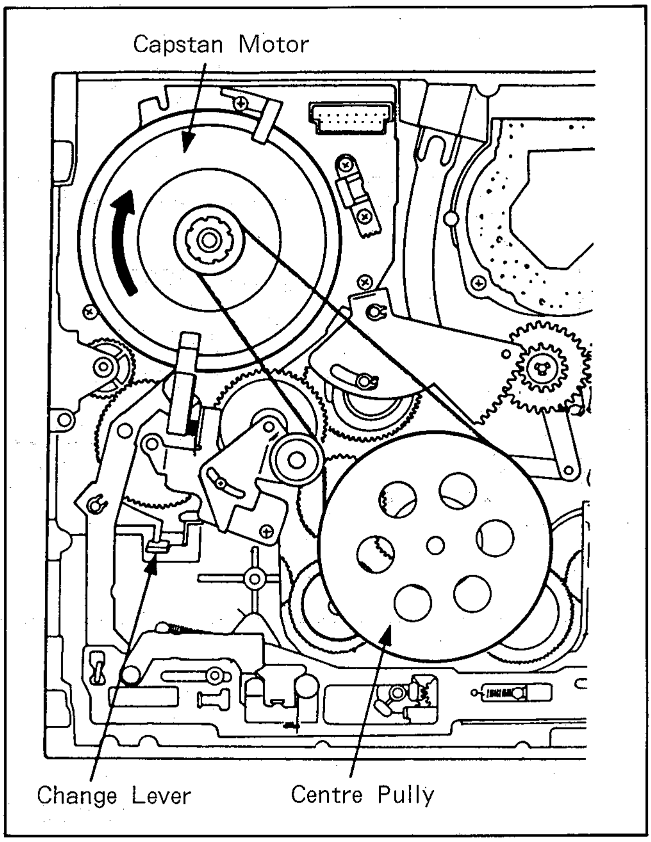

Capstan Motor
Change Lever
Centre Pully

Fig.D10

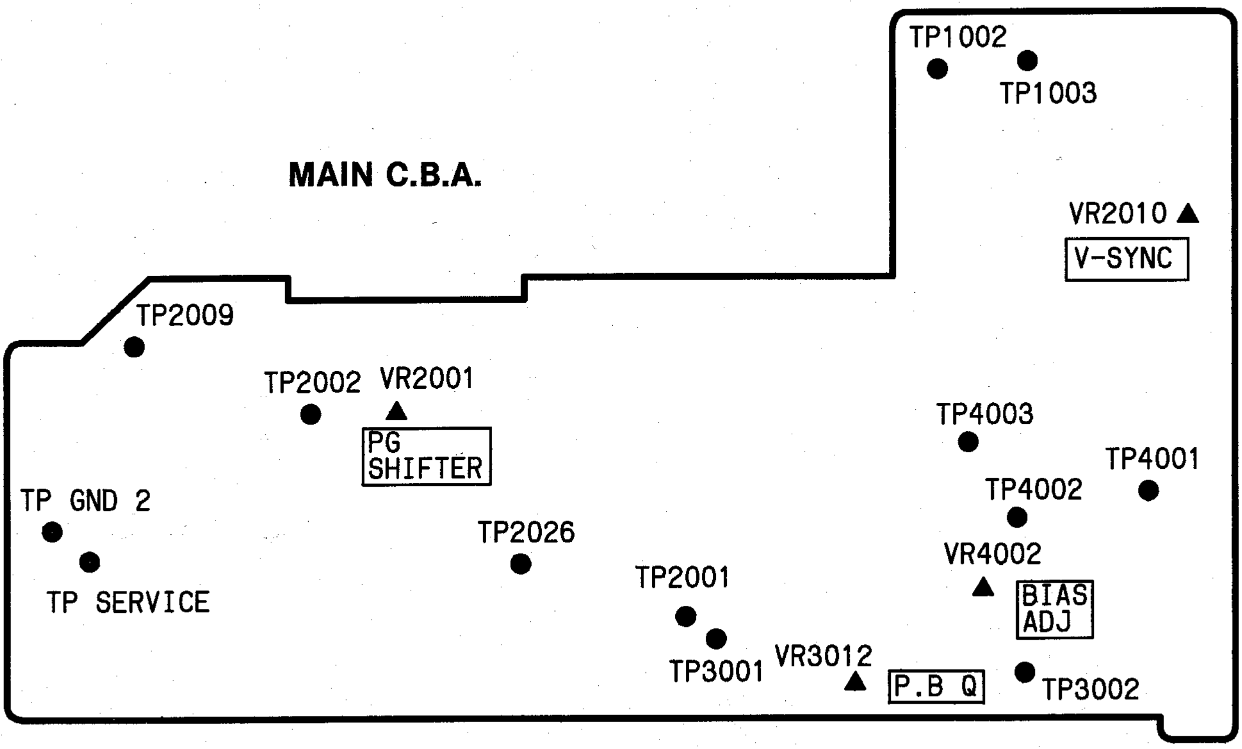
NOTE:
When restalling the Cassette Compartment, mechanical adjustment (alignment) must be performed for correct working .refer to Service Manual (G Mechanical Chassis) (Order No.VRD8701105, item 3-10.mechanical adjustment (alignment)).

2-2. MECHANICAL ADJUSTMENT PROCEDURES

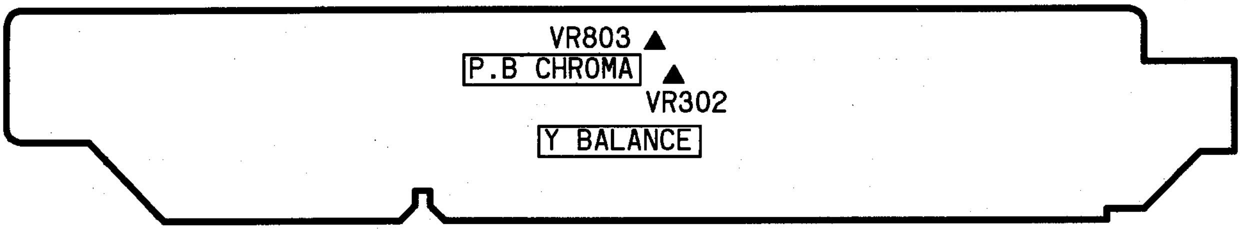
This mechanical chassis of these models NV-L20EO/EV/EE is the same as G Mechanical Chassis.
Therefore please refer to the Service Manual No. GⅡ/G-REV. Mechanical Chassis (Order No. VRD8901M101).

LOCATION OF TEST POINTS & CONTROLS

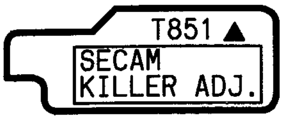
MAIN C.B.A.


TP1002
TP1003
VR2010
V-SYNC
TP2009
TP2002
VR2001
PG SHIFTER
TP4003
TP4001
TP4002
TP GND 2
TP SERVICE
TP2026
VR4002
BIAS ADJ
TP2001
TP3001
VR3012
P.B Q
TP3002

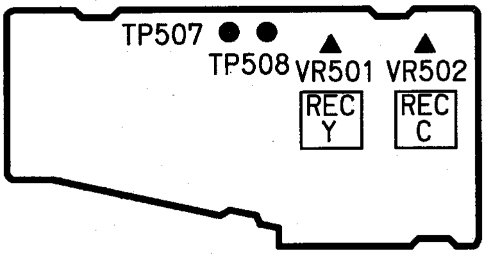
SUB MAIN C.B.A.


VR803
P.B CHROMA
VR302
Y BALANCE

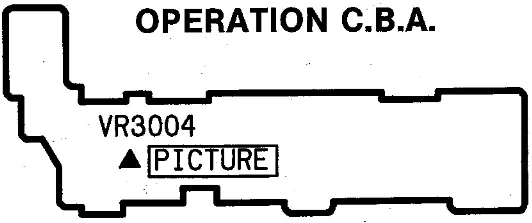
DDR SECAM PACK C.B.A.
(NV-L20EE)


T851
SECAM KILLER ADJ.

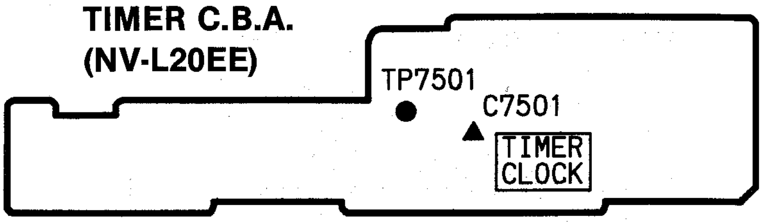
HEAD AMP C.B.A.


TP507
TP508
VR501
VR502
REC Y
REC C

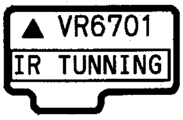
OPERATION C.B.A.


VR3004
▲ PICTURE

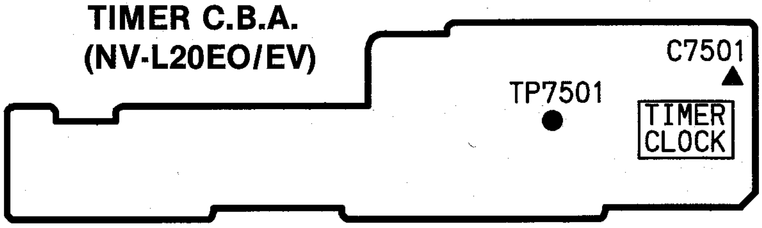
TIMER C.B.A. (NV-L20EE)


TP7501
C7501
TIMER CLOCK

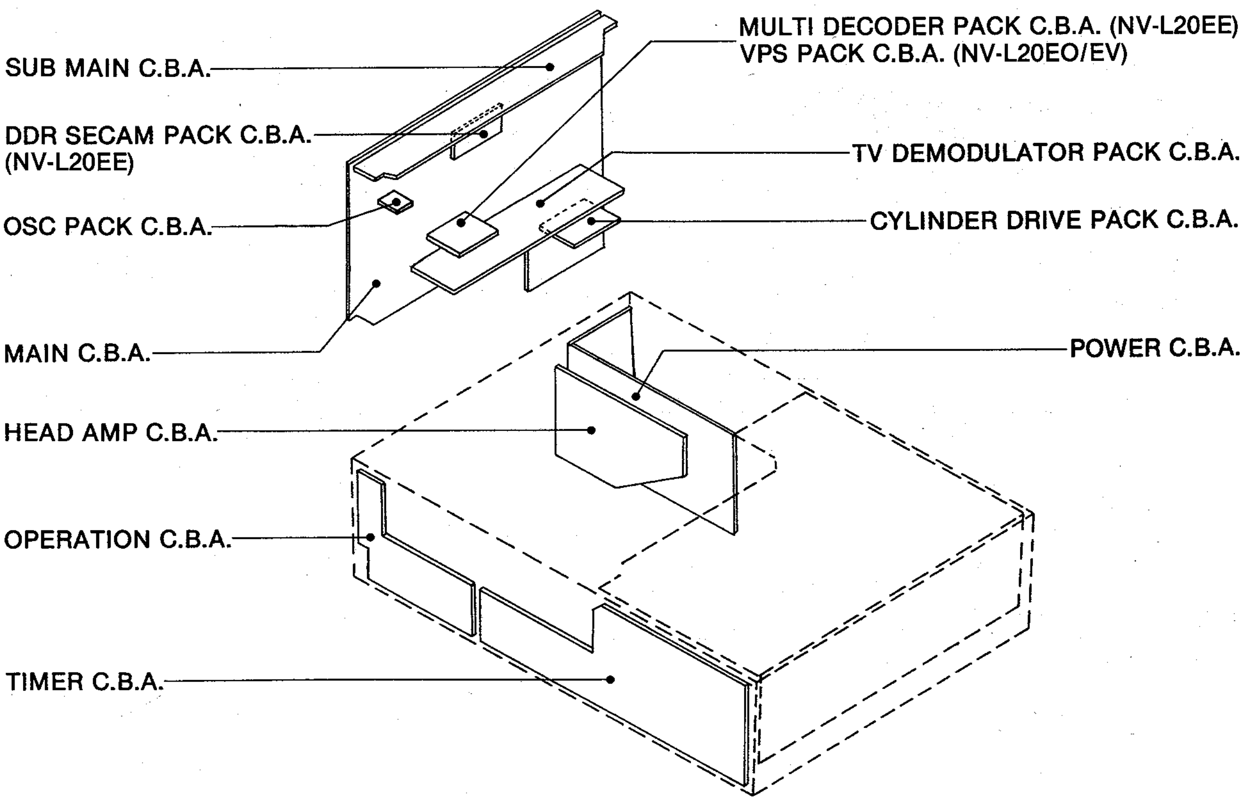
IR RECEIVER C.B.A.


▲ VR6701
IR TUNNING

TIMER C.B.A. (NV-L20EO/EV)


C7501
TP7501
TIMER CLOCK

CIRCUIT BOARD LAYOUT


SUB MAIN C.B.A.
DDR SECAM PACK C.B.A. (NV-L20EE)
OSC PACK C.B.A.
MAIN C.B.A.
HEAD AMP C.B.A.
OPERATION C.B.A.
TIMER C.B.A.
MULTI DECODER PACK C.B.A. (NV-L20EE)
VPS PACK C.B.A. (NV-L20EO/EV)
TV DEMODULATOR PACK C.B.A.
CYLINDER DRIVE PACK C.B.A.
POWER C.B.A.

2-3. ELECTRICAL ADJUSTMENT PROCEDURES

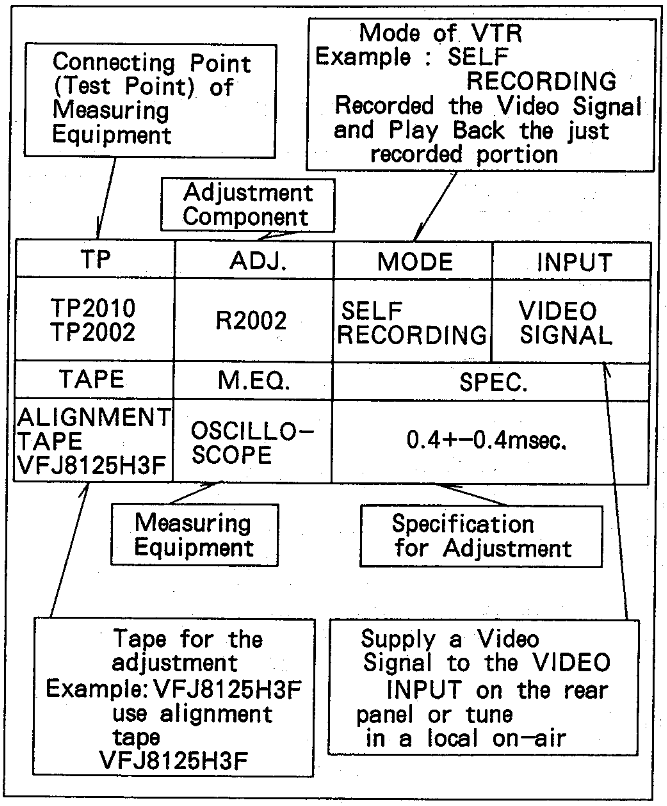
This section provides complete electrical adjustment procedures which may be required for electronic circuits of VHS Video Cassette Recorders NV-L20EO/EV/EE.

2-3-1. TEST EQUIPMENTS

To perform the electrical adjustments completely, following equipments are required.

1. VTVM (Vacuum Tube Volt Meter) or DVM (Digital Volt Meter)
   Voltage Range: 0.001～50V
2. Dual-Trace Oscilloscope
   Voltage Range: 0.005～50V/div.
   Frequency Range: DC～30MHz
   Probes: 10:1 or 1:1
3. Frequency Counter
   Frequency Range: 0～10MHz
4. Signal Generator (Sinewave)
   Frequency Range: 0～500KHz
5. Video Sweep Generator
   Frequency Range: 0～10MHz
6. Colour Monitor TV
7. Plastic Tip Driver
8. VHS Alignment Tape (VFJ8125H3F)

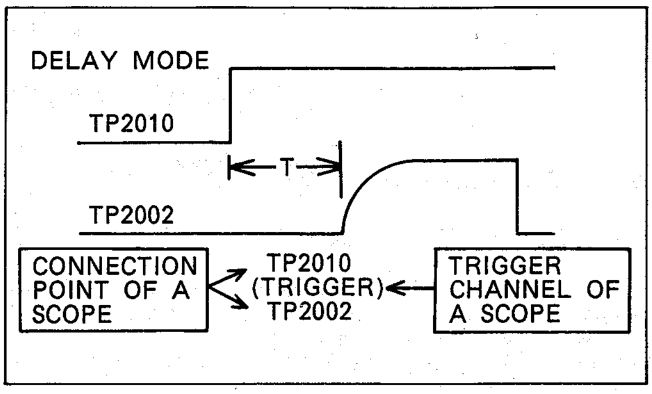
2-3-2. HOW TO READ THE ADJUSTMENT PROCEDURES



TP	ADJ.	MODE	INPUT
TP2010 TP2002	R2002	SELF RECORDING	VIDEO SIGNAL
TAPE	**M.EQ.**	**SPEC.**	
ALIGNMENT TAPE VFJ8125H3F	OSCILLO-SCOPE	0.4+-0.4msec.	

Connecting Point (Test Point) of Measuring Equipment
Mode of VTR Example : SELF RECORDING Recorded the Video Signal and Play Back the just recorded portion
Adjustment Component
Measuring Equipment
Specification for Adjustment
Tape for the adjustment Example: VFJ8125H3F use alignment tape VFJ8125H3F
Supply a Video Signal to the VIDEO INPUT on the rear panel or tune in a local on-air

Fig.E1



DELAY MODE
TP2010
T
TP2002
CONNECTION POINT OF A SCOPE
TP2010 (TRIGGER) TP2002
TRIGGER CHANNEL OF A SCOPE

Fig.E2

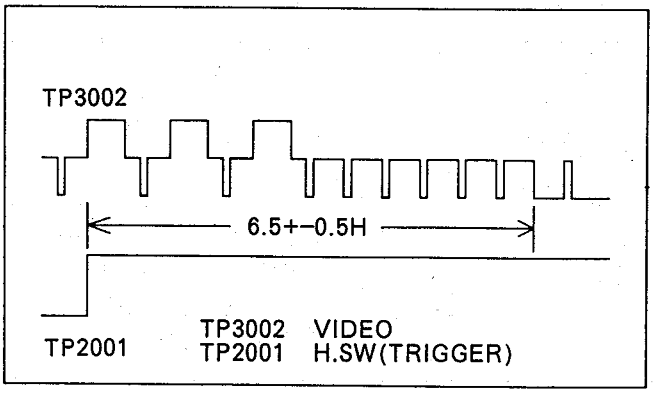
NOTE:
Before the electrical adjustment, set the VHS VTR as following conditions except for especial instructions in each adjustment item.

1) Picture Sharpness Control...Centre Fix Position
2) Test Signal Switch...OFF Position
3) RF Selector Switch...PAL/SECAM B.G Position (NV-L20EE)
4) Noise Filter/Edit Switch...OFF Position
5) TV System Selector...AUTO Position (NV-L20EE)
6) Digital Tracking On/Off Switch...ON Position
7) Channel Selection Up and Down Buttons ...AV Mode (CH 0) (NV-L20EO/EV)

SERVO SECTION

2-3-3. PG SHIFTER ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP2001 TP3002	VR2001	PLAY	
TAPE	**M.EQ.**	**SPEC.**	
ALIGNMENT TAPE VFJ8125H3F	OSCILLO-SCOPE	6.5+-0.5H	



TP3002
6.5+-0.5H
TP2001
TP3002 VIDEO
TP2001 H.SW(TRIGGER)

Fig.E3

2-3-4. ARTIFICIAL V-SYNC ADJUSTMENT

TP	ADJ.	MODE	INPUT
	VR2010	SELF RECORDING	VIDEO SIGNAL
TAPE	M.EQ.	SPEC.	
BLANK TAPE	TV MONITOR		

1. **Playback the just recorded portion and place the deck in STILL mode.**
2. Adjust the VR2010 so that the V-dancing does not appear on the TV monitor screen.

LUMINANCE, CHROMINANCE & HEAD AMP SECTION

2-3-5. CHROMINANCE RECORDING CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP507(HOT) TP508(GND)	VR502	RECORDING	VIDEO SIGNAL
TAPE	M.EQ.	SPEC.	
BLANK TAPE	OSCILLO-SCOPE	32+-2mVp-p	

1. Connect the oscilloscope to TP507(HOT) and TP508(GND).
2. Connect a jumper wire between P3001-1 and GND. And then place the unit to Recording mode.
3. Adjust VR502 so that chroma level becomes 32+-2mVp-p.

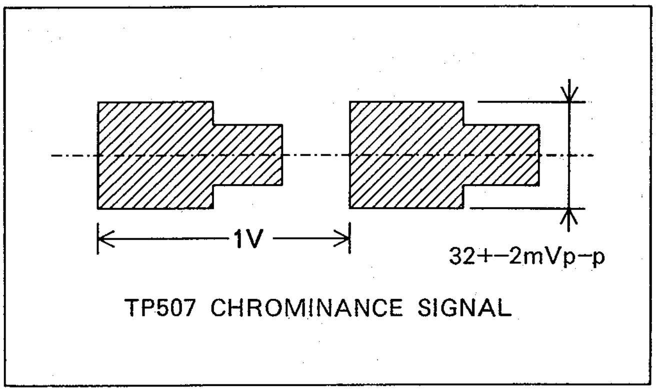

1V
32+-2mVp-p
TP507 CHROMINANCE SIGNAL

Fig.E4

2-3-6. LUMINANCE RECORDING CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP507(HOT) TP508(GND)	VR501	RECORDING	VIDEO SIGNAL
TAPE	M.EQ.	SPEC.	
BLANK TAPE	OSCILLO-SCOPE	130+-5mVp-p	

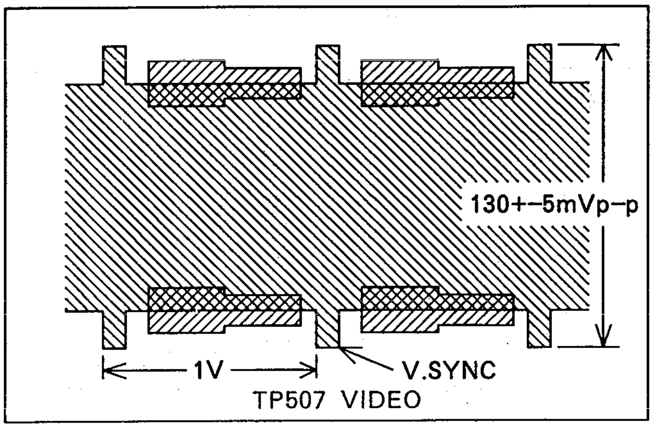

130+-5mVp-p
1V
V.SYNC
TP507 VIDEO

Fig.E5

2-3-7. PLAYBACK CHROMA CYAN LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3002 (VIDEO OUT)	VR803	SELF RECORDING	VIDEO SIGNAL
TAPE	M.EQ.	SPEC.	
BLANK TAPE	OSCILLO-SCOPE	0.55+-0.05Vp-p	

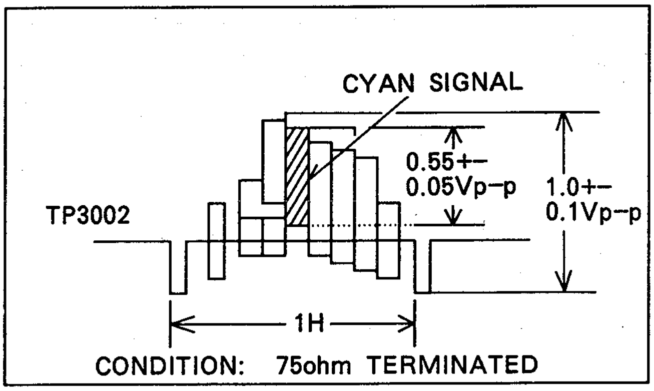
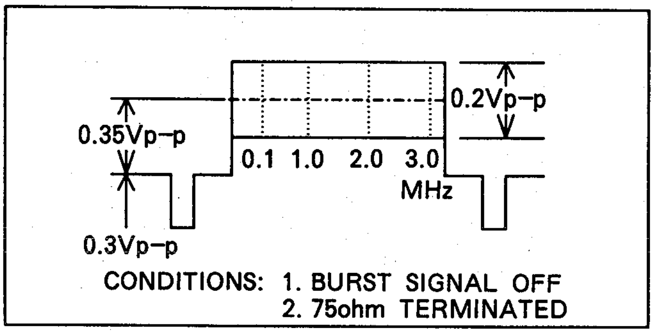

CYAN SIGNAL
0.55+-0.05Vp-p
1.0+-0.1Vp-p
TP3002
1H
CONDITION: 75ohm TERMINATED

Fig.E6

2-3-8. HEAD AMP FREQUENCY RESPONSE ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3002 (VIDEO OUT)	VR3012	SELF RECORDING	VIDEO SWEEP
TAPE	M.EQ.	SPEC.	
BLANK TAPE	VIDEO SWEEP/ OSCILLO-SCOPE		

1. Set the sweep generator output as shown in below.



CONDITIONS: 1. BURST SIGNAL OFF
2. 75ohm TERMINATED

Fig.E7

2. Picture Sharpness Control is centre fix position.
3. Adjust the VR3012 so that the waveform becomes as shown in below.

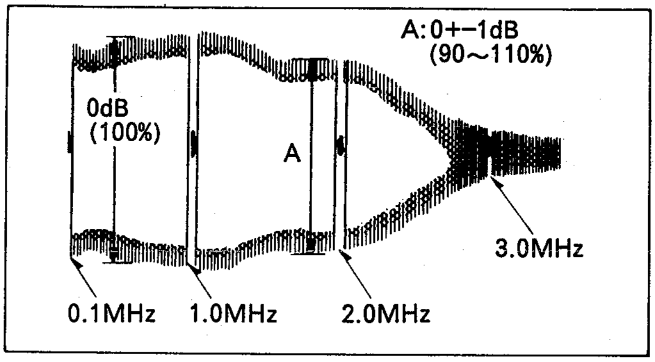


Fig.E8

2-3-9. Y-NR BALANCE ADJUSTMENT

TP	ADJ.	MODE	INPUT
C306-(+)	VR302	SELF RECORDING	VIDEO SIGNAL (COLOUR BAR)
TAPE	M.EQ.	SPEC.	
BLANK TAPE	OSCILLO-SCOPE	WAVEFORM IS MINIMIZED	

1. Connect the oscilloscope to (+)side of C306 on Sub Main C.B.A..
2. Adjust VR302 so that the waveform is minimized as shown below.

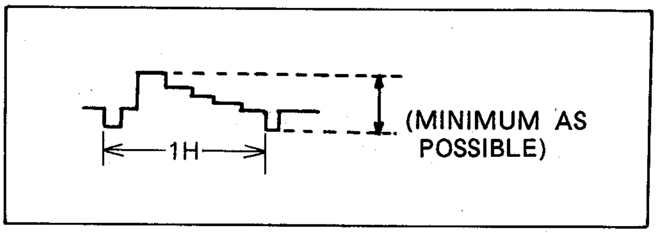


Fig.E9

2-3-10. SECAM KILLER ADJUSTMENT (NV-L20EE ONLY)

TP	ADJ.	MODE	INPUT
IC851-11	T851	RECORDING	SECAM VIDEO SIGNAL
TAPE	M.EQ.	SPEC.	
BLANK TAPE	OSCILLO-SCOPE	Portion A is peak to negative direction.	

1. Adjust T851 so that the portion "A" becomes maximum waveform.

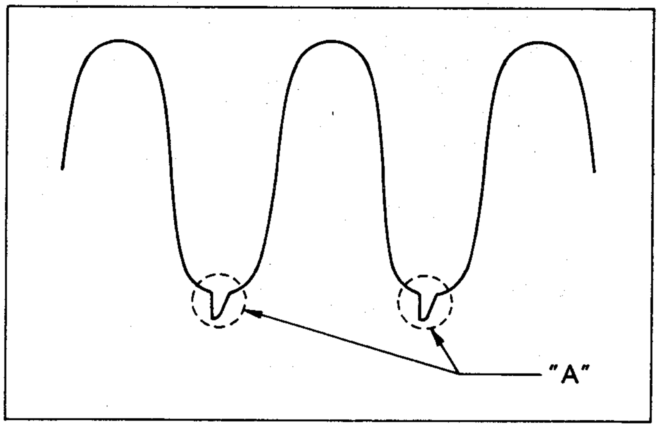


Fig.E10

AUDIO SECTION

2-3-11. AUDIO BIAS CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP4002 (+) TP4003(−)	VR4002	RECORDING	
TAPE	M.EQ.	SPEC.	
BLANK TAPE	V.T.V.M.	2.4+−0.1mVrms	

TIMER SECTION

NOTE: Do not connect the AC power plug.

2-3-12. TIMER REFERENCE CLOCK ADJUSTMENT

(NV−L20EO/EV)

TP	ADJ.	MODE	INPUT
TP7501	C7501		
TAPE	M.EQ.	SPEC.	
	FREQUENCY COUNTER	7812.5+−0.015us	

1. Connect a jumper wire between P7501−10 and 11.
2. Connect a jumper wire between P7501−8 and GND.

(NV−L20EE)

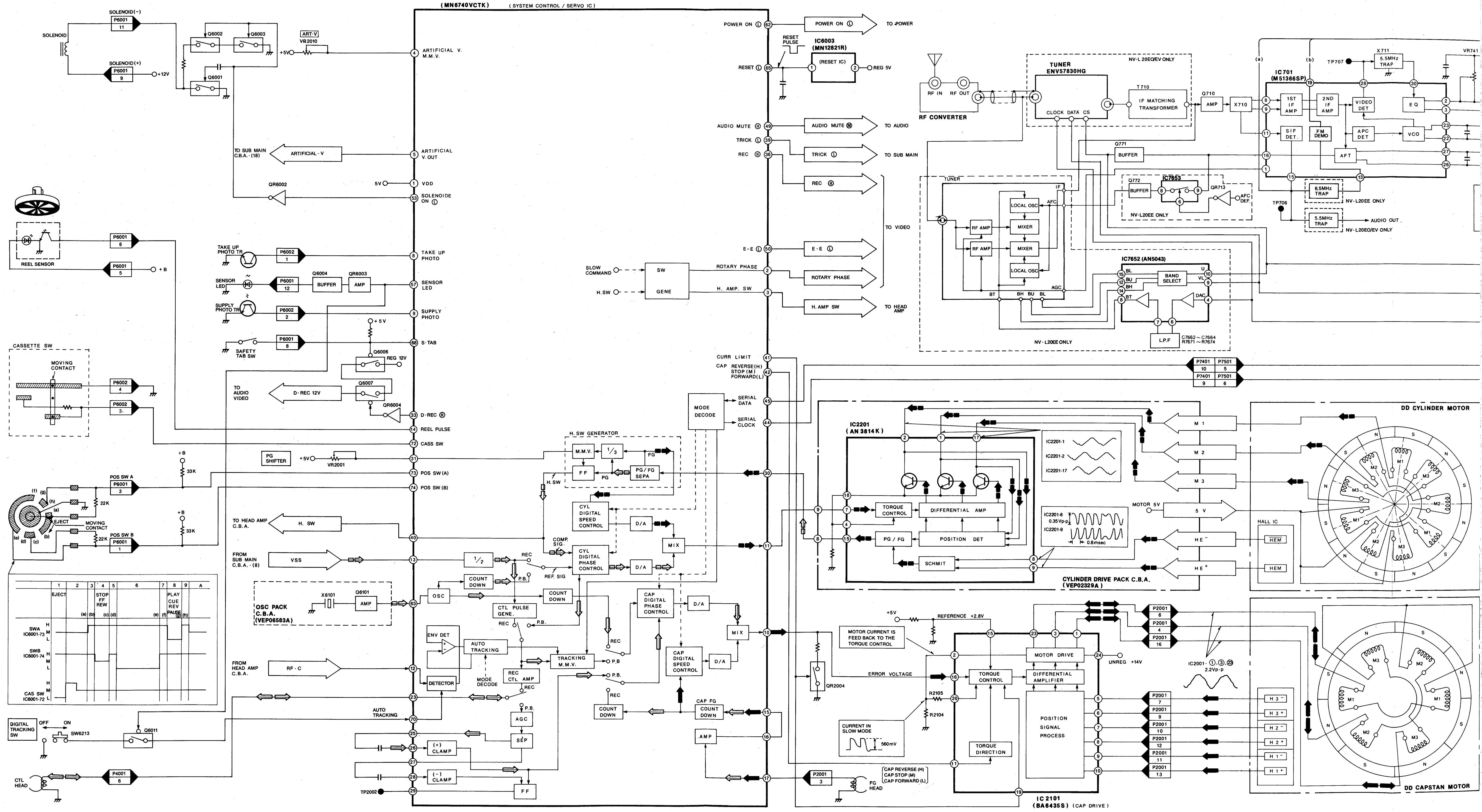
TP	ADJ.	MODE	INPUT
TP7501	C7501		
TAPE	M.EQ.	SPEC.	
	FREQUENCY COUNTER	488.2812+−0.001us	

1. Connect a jumper wire between P7501−10 and 11.
2. Connect a jumper wire between P7501−8 and GND.
3. Connect a diode(MA165) between IC7501−36 and 56.

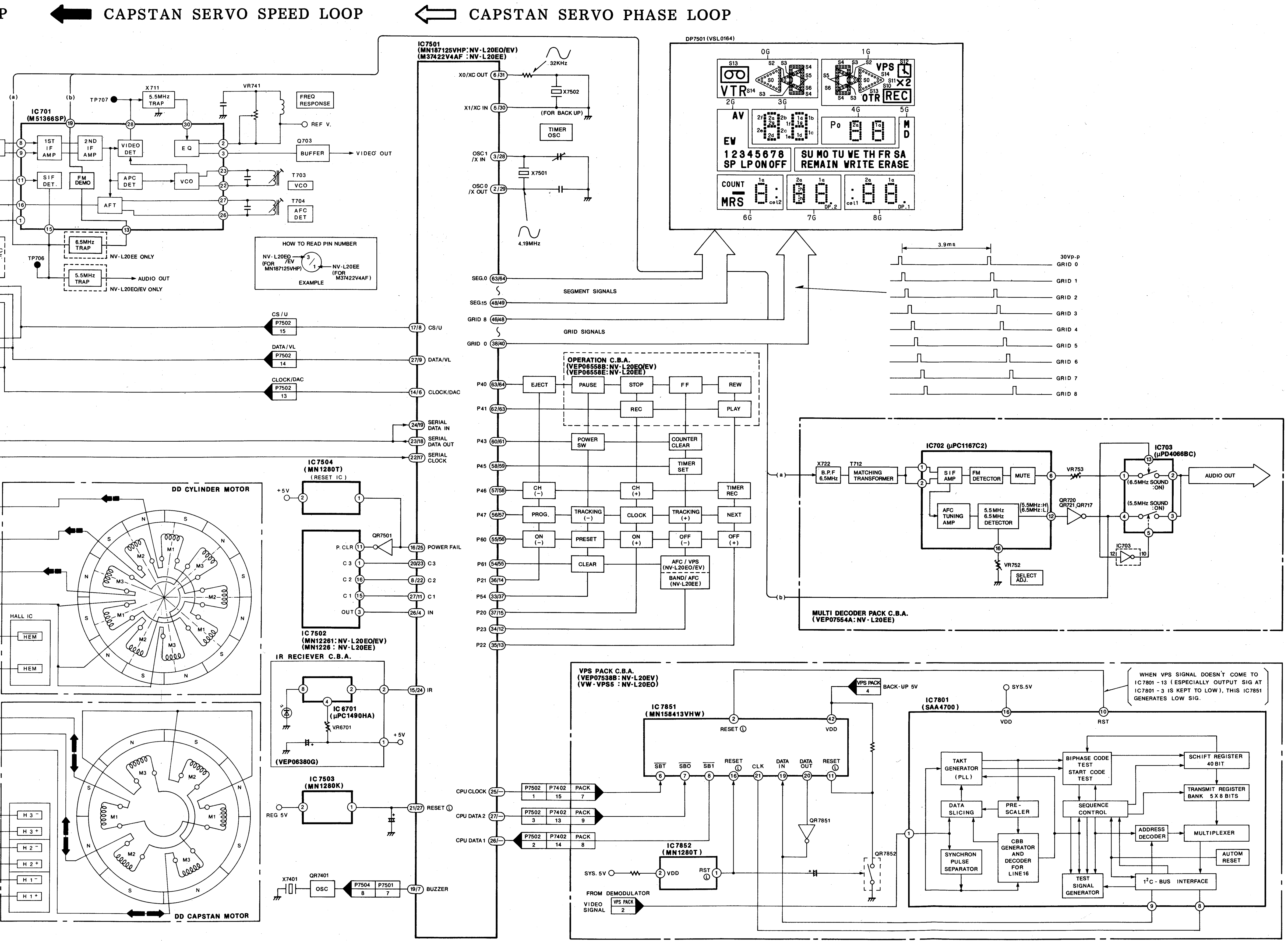
Memo:

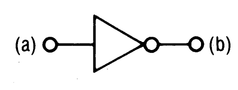
SECTION 3
BLOCK DIAGRAMS & SCHEMATIC DIAGRAMS
3-1. SYSTEM CONTROL, SERVO & TIMER BLOCK DIAGRAM

CYLINDER SERVO SPEED LOOP   CYLINDER SERVO PHASE LOOP   CAPSTAN SERVO



IC2001
(MN6740VCTK)
(SYSTEM CONTROL / SERVO IC)
SOLENOID(-)
P6001
11
SOLENOID
SOLENOID(+)
P6001
9
+12V
Q6002
Q6003
Q6001
ART-V
VR2010
+5V
ARTIFICIAL V. M.M.V.
TO SUB MAIN C.B.A. - (18)
ARTIFICIAL - V
ARTIFICIAL V. OUT
QR6002
5V
VDD
SOLENOIDE ON
REEL SENSOR
P6001
6
5
+B
TAKE UP PHOTO TR
P6002
1
TAKE UP PHOTO
SENSOR LED
P6001
12
Q6004
BUFFER
QR6003
AMP
SENSOR LED
SUPPLY PHOTO TR
P6002
2
SUPPLY PHOTO
+5V
SAFETY TAB SW
P6001
8
S-TAB
Q6006
REG 12V
CASSETTE SW
MOVING CONTACT
P6002
4
3
TO AUDIO VIDEO
D-REC 12V
Q6007
QR6004
D-REC
REEL PULSE
CASS SW
PG SHIFTER
+5V
VR2001
+B
33K
POS SW A
P6001
3
POS SW (A)
POS SW (B)
22K
EJECT
MOVING CONTACT
POS SW B
P6001
1
TO HEAD AMP C.B.A.
H. SW
FROM SUB MAIN C.B.A. - (8)
VSS
OSC PACK C.B.A. (VEP06583A)
X6101
Q6101
AMP
OSC
FROM HEAD AMP C.B.A.
RF-C
AUTO TRACKING
DIGITAL TRACKING SW
OFF
ON
SW6213
Q6011
CTL HEAD
P4001
6
TP2002
EJECT
STOP FF REW
PLAY CUE REV PAUSE
SWA IC6001-73
SWB IC6001-74
CAS SW IC6001-72
H
M
L
H.SW GENERATOR
M.M.V.
1/3
FF
PG
PG/FG SEPA
FG
CYL DIGITAL SPEED CONTROL
CYL DIGITAL PHASE CONTROL
COMP. SIG.
REF. SIG
D/A
MIX
1/2
COUNT DOWN
CTL PULSE GENE.
REC
P.B.
ENV DET
AUTO TRACKING
DETECTOR
TRACKING M.M.V.
MODE DECODE
REC CTL AMP
AGC
SEP
(+) CLAMP
(-) CLAMP
FF
CAP DIGITAL PHASE CONTROL
CAP DIGITAL SPEED CONTROL
CAP FG COUNT DOWN
AMP
MODE DECODE
SLOW COMMAND
H.SW
SW
GENE
ROTARY PHASE
H. AMP. SW
POWER ON
TO POWER
RESET PULSE
IC6003 (MN12821R)
(RESET IC)
REG 5V
RESET
AUDIO MUTE
TO AUDIO
TRICK
REC
TO SUB MAIN
TO VIDEO
E-E
TO HEAD AMP
CURR LIMIT
CAP REVERSE(H) STOP(M) FORWARD(L)
SERIAL DATA
SERIAL CLOCK
P7401
P7501
10
5
9
6
RF IN
RF OUT
RF CONVERTER
TUNER ENV57830HG
NV-L 20EQ/EV ONLY
CLOCK DATA CS
T710
IF MATCHING TRANSFORMER
Q710
AMP
X710
IC701 (M51366SP)
1ST IF AMP
2ND IF AMP
VIDEO DET
EQ
SIF DET.
FM DEMO
APC DET
VCO
AFT
TP707
X711
5.5MHz TRAP
VR741
Q771
BUFFER
TUNER
IF
AFC
LOCAL OSC
RF AMP
MIXER
Q772
IC7653
QR713
AFC DEF.
NV-L20EE ONLY
6.5MHz TRAP
5.5MHz TRAP
AUDIO OUT
NV-L20EQ/EV ONLY
TP706
IC7652 (AN5043)
BAND SELECT
BL BU BH BT
U VL DAC
AGC
L.P.F
C7662~C7664 R7671~R7674
NV-L20EE ONLY
IC2201 (AN 3814K)
TORQUE CONTROL
DIFFERENTIAL AMP
PG/FG
POSITION DET
SCHMIT
IC2201-1
IC2201-2
IC2201-17
IC2201-8 0.35Vp-p
IC2201-9
0.8msec
MOTOR 5V
5 V
M 1
M 2
M 3
HE-
HE+
HALL IC
HEM
CYLINDER DRIVE PACK C.B.A. (VEP02329A)
DD CYLINDER MOTOR
+5V
REFERENCE +2.8V
MOTOR CURRENT IS FEED BACK TO THE TORQUE CONTROL
ERROR VOLTAGE
QR2004
R2105
R2104
CURRENT IN SLOW MODE
560mV
MOTOR DRIVE
UNREG +14V
TORQUE CONTROL
DIFFERENTIAL AMPLIFIER
POSITION SIGNAL PROCESS
TORQUE DIRECTION
IC2101 (BA6435S) (CAP DRIVE)
P2001
6
4
16
7
9
10
12
11
13
3
IC2001-①,③,㉓
2.2Vp-p
H3-
H3+
H2-
H2+
H1-
H1+
CAP REVERSE (H) CAP STOP (M) CAP FORWARD (L)
FG HEAD
DD CAPSTAN MOTOR
N
S
M1
M2
M3

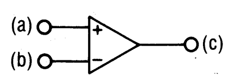

CAPSTAN SERVO SPEED LOOP
CAPSTAN SERVO PHASE LOOP
IC701 (M51366SP)
1ST IF AMP
2ND IF AMP
VIDEO DET
EQ
SIF DET.
FM DEMO
APC DET
VCO
AFT
X711 5.5MHz TRAP
VR741
FREQ RESPONSE
REF V.
Q703 BUFFER
VIDEO OUT
T703 VCO
T704 AFC DET
TP707
TP706
6.5MHz TRAP
NV-L20EE ONLY
5.5MHz TRAP
AUDIO OUT
NV-L20EO/EV ONLY
HOW TO READ PIN NUMBER
NV-L20EO/EV (FOR MN187125VHP)
NV-L20EE (FOR M37422V4AF)
EXAMPLE
IC7501 (MN187125VHP: NV-L20EO/EV) (M37422V4AF: NV-L20EE)
32KHz
X7502 (FOR BACK UP)
TIMER OSC
X7501
4.19MHz
XO/XC OUT
X1/XC IN
OSC1 /X IN
OSC0 /X OUT
SEG.0
SEG.15
GRID 8
GRID 0
SEGMENT SIGNALS
GRID SIGNALS
CS/U
DATA/VL
CLOCK/DAC
P7502
SERIAL DATA IN
SERIAL DATA OUT
SERIAL CLOCK
POWER FAIL
C3
C2
C1
IN
IR
RESET
BUZZER
CPU CLOCK
CPU DATA 2
CPU DATA 1
DP7501 (VSL0164)
VTR
OTR
REC
VPS
AV
EW
Po
M D
1 2 3 4 5 6 7 8
SP LP ON OFF
SU MO TU WE TH FR SA
REMAIN WRITE ERASE
COUNT
MRS
3.9ms
30Vp-p
GRID 0
GRID 1
GRID 2
GRID 3
GRID 4
GRID 5
GRID 6
GRID 7
GRID 8
OPERATION C.B.A. (VEP08558B: NV-L20EO/EV) (VEP08558E: NV-L20EE)
EJECT
PAUSE
STOP
FF
REW
REC
PLAY
POWER SW
COUNTER CLEAR
TIMER SET
CH (-)
CH (+)
TIMER REC
PROG.
TRACKING (-)
CLOCK
TRACKING (+)
NEXT
ON (-)
PRESET
ON (+)
OFF (-)
OFF (+)
CLEAR
AFC / VPS (NV-L20EO/EV)
BAND/AFC (NV-L20EE)
P40 P41 P43 P45 P46 P47 P60 P61 P21 P54 P20 P23 P22
IC7504 (MN1280T) (RESET IC)
+5V
QR7501
P.CLR
OUT
IC7502 (MN12261: NV-L20EO/EV) (MN1226: NV-L20EE)
IR RECIEVER C.B.A.
IC6701 (μPC1490HA)
VR6701
(VEP06380G)
IC7503 (MN1280K)
REG 5V
X7401
QR7401
OSC
P7504
P7501
DD CYLINDER MOTOR
HALL IC
HEM
DD CAPSTAN MOTOR
H3- H3+ H2- H2+ H1- H1+
M1 M2 M3 N S
MULTI DECODER PACK C.B.A. (VEP07554A: NV-L20EE)
X722 B.P.F 6.5MHz
T712 MATCHING TRANSFORMER
IC702 (μPC1167C2)
SIF AMP
FM DETECTOR
MUTE
AFC TUNING AMP
5.5MHz 6.5MHz DETECTOR
(5.5MHz:H) (6.5MHz:L)
VR752
SELECT ADJ.
VR753
QR720 QR721,QR717
IC703 (μPD4066BC)
(6.5MHz SOUND :ON)
(5.5MHz SOUND :ON)
AUDIO OUT
VPS PACK C.B.A. (VEP07538B: NV-L20EV) (VW-VPS5: NV-L20EO)
VPS PACK
BACK-UP 5V
SYS.5V
IC7851 (MN158413VHW)
RESET
VDD
SBT SBO SB1 CLK DATA IN DATA OUT
QR7851
IC7852 (MN1280T)
RST
QR7852
FROM DEMODULATOR VIDEO SIGNAL
IC7801 (SAA4700)
RST
WHEN VPS SIGNAL DOESN'T COME TO IC7801-13 (ESPECIALLY OUTPUT SIG AT IC7801-3 IS KEPT TO LOW), THIS IC7851 GENERATES LOW SIG.
TAKT GENERATOR (PLL)
DATA SLICING
PRE-SCALER
SYNCHRON PULSE SEPARATOR
CBB GENERATOR AND DECODER FOR LINE16
BIPHASE CODE TEST START CODE TEST
SEQUENCE CONTROL
SCHIFT REGISTER 40 BIT
TRANSMIT REGISTER BANK 5 X 8 BITS
ADDRESS DECODER
MULTIPLEXER
AUTOM RESET
TEST SIGNAL GENERATOR
I²C-BUS INTERFACE

SYMBOL	TRUTH VALUE TABLE
INVERTER 	IN (a): H, L OUT (b): L, H

INVERTER

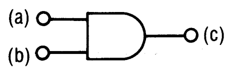
IN	(a)	H	L
OUT	(b)	L	H

COMPARTOR



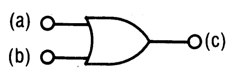
IN	(a) (b)	(a) > (b)	(a) < (b)
OUT	(c)	H	L

AND CIRCUIT



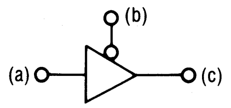
IN	(a)	L	L	H	H
	(b)	L	H	L	H
OUT	(c)	L	L	L	H

OR CIRCUIT



IN	(a)	L	L	H	H
	(b)	L	H	L	H
OUT	(c)	L	H	H	H

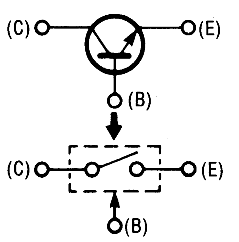
THREE STATES BUFFER



IN	(a)	H	L	H or L
	(b)	L	L	H
OUT	(c)	H	L	※

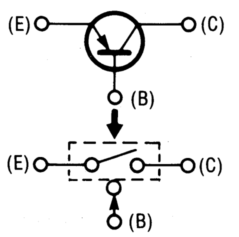
※ High Impedance

TR. SW (NPN TYPE)



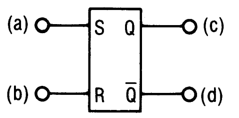
BASE	H	L
TR. SW	ON	OFF

TR. SW (PNP TYPE)



BASE	H	L
TR. SW	OFF	ON

R-S TYPE FLIP-FLOP

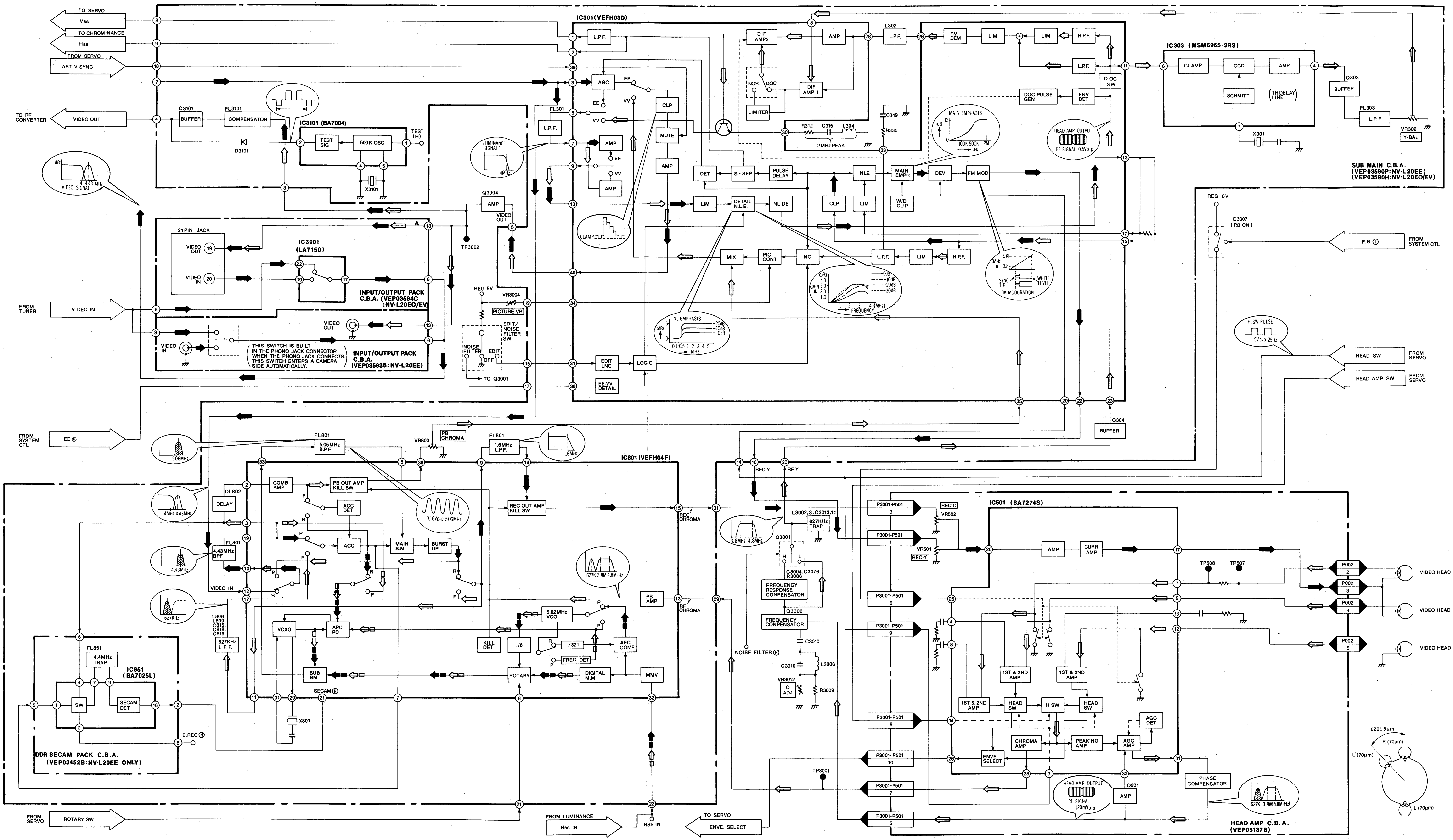


IN	(a)	L	L	⎍
	(b)	L	⎍	L
OUT	(c)	※	L	H
	(d)	◆	H	L

※ Initial condition is maintained.
◆ Initial condition is reverced.

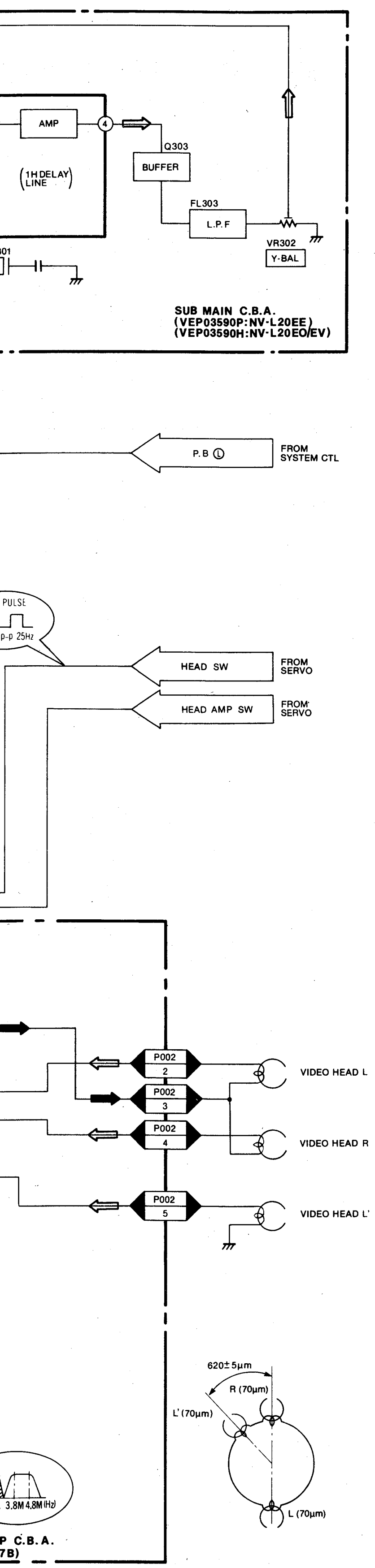
3-2. LUMINANCE & CHROMINANCE BLOCK DIAGRAM

MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL PATH IN PLAYBACK MODE
5.06MHz PHASE ROTATIONAL SIGNAL IN REC MODE
5.06MHz PHASE ROTATIONAL SIGNAL IN PLAYBACK MODE


TO SERVO
Vss
TO CHROMINANCE
Hss
FROM SERVO
ART V SYNC
TO RF CONVERTER
VIDEO OUT
Q3101
BUFFER
FL3101
COMPENSATOR
IC3101 (BA7004)
TEST SIG
500K OSC
TEST (H)
D3101
X3101
VIDEO SIGNAL
4 4.43 MHz
Q3004
AMP
VIDEO OUT
TP3002
21 PIN JACK
VIDEO OUT
VIDEO IN
IC3901 (LA7150)
INPUT/OUTPUT PACK C.B.A. (VEP03594C :NV-L20EO/EV)
FROM TUNER
VIDEO IN
VIDEO OUT
VIDEO IN
THIS SWITCH IS BUILT IN THE PHONO JACK CONNECTOR. WHEN THE PHONO JACK CONNECTS, THIS SWITCH ENTERS A CAMERA SIDE AUTOMATICALLY.
INPUT/OUTPUT PACK C.B.A. (VEP03593B:NV-L20EE)
REG.5V
VR3004
PICTURE VR
NOISE FILTER
EDIT
OFF
EDIT/NOISE FILTER SW
TO Q3001
FROM SYSTEM CTL
EE
IC301 (VEFH03D)
L.P.F.
AGC
EE
VV
CLP
FL301
LUMINANCE SIGNAL
4MHz
MUTE
AMP
CLAMP
LIM
DETAIL N.L.E.
NL DE
MIX
PIC CONT
NC
NL EMPHASIS
EDIT LNC
LOGIC
EE-VV DETAIL
DIF AMP2
NOR.
DOC
LIMITER
DIF AMP 1
AMP
L302
L.P.F.
FM DEM
LIM
H.P.F.
DOC PULSE GEN
ENV DET
D.OC SW
R312
C315
L304
2MHz PEAK
C349
R335
DET
S・SEP
PULSE DELAY
NLE
MAIN EMPH
DEV
FM MOD
MAIN EMPHASIS
W/D CLIP
CLP
HEAD AMP OUTPUT
RF SIGNAL 0.5Vp-p
SYNC TIP
WHITE LEVEL
FM MODURATION
GAIN
FREQUENCY
IC303 (MSM6965-3RS)
CLAMP
CCD
AMP
SCHMITT
(1H DELAY LINE)
X301
Q303
BUFFER
FL303
L.P.F
VR302
Y-BAL
SUB MAIN C.B.A. (VEP03590P:NV-L20EE) (VEP03590H:NV-L20EO/EV)
REG 6V
Q3007 (PB ON)
P.B Ⓛ
FROM SYSTEM CTL
H.SW PULSE
5Vp-p 25Hz
HEAD SW
FROM SERVO
HEAD AMP SW
FROM SERVO
Q304
BUFFER
FL801
5.06MHz B.P.F.
VR803
PB CHROMA
1.6MHz L.P.F.
1.6MHz
IC801 (VEFH04F)
DL802
DELAY
COMB AMP
PB OUT AMP KILL SW
ACC DET
ACC
MAIN B.M
BURST UP
REC OUT AMP KILL SW
0.16Vp-p 5.06MHz
REC CHROMA
4.43MHz BPF
VIDEO IN
627KHz
627K 3.8M 4.8M(Hz)
PB AMP
RF CHROMA
L806, L809, C815, C818, C819
627KHz L.P.F.
VCXO
APC PC
5.02MHz VCO
KILL DET
1/8
1/321
FREQ. DET
AFC COMP
SUB BM
ROTARY
DIGITAL M.M
MMV
X801
SECAM Ⓗ
FL851
4.4MHz TRAP
IC851 (BA7025L)
SW
SECAM DET
E.REC Ⓗ
DDR SECAM PACK C.B.A. (VEP03452B:NV-L20EE ONLY)
FROM SERVO
ROTARY SW
FROM LUMINANCE
Hss IN
HSS IN
TO SERVO
ENVE. SELECT
REC.Y
RF.Y
L3002,3, C3013,14
627KHz TRAP
3.8MHz 4.8MHz
Q3001
C3004, C3076 R3086
FREQUENCY RESPONSE COMPENSATOR
Q3006
FREQUENCY COMPENSATOR
C3010
C3016
L3006
VR3012
Q ADJ
R3009
NOISE FILTER Ⓗ
TP3001
P3001-P501
REC-C
VR502
VR501
REC-Y
IC501 (BA7274S)
AMP
CURR AMP
TP508
TP507
P002
VIDEO HEAD L
VIDEO HEAD R
VIDEO HEAD L'
1ST & 2ND AMP
HEAD SW
H SW
AGC DET
CHROMA AMP
PEAKING AMP
AGC AMP
ENVE SELECT
HEAD AMP OUTPUT
RF SIGNAL 120mVp-p
Q501
AMP
PHASE COMPENSATOR
HEAD AMP C.B.A. (VEP05137B)
620±5μm
R (70μm)
L' (70μm)
L (70μm)

Back Page:
SYSTEM CONTROL & SERVO Section

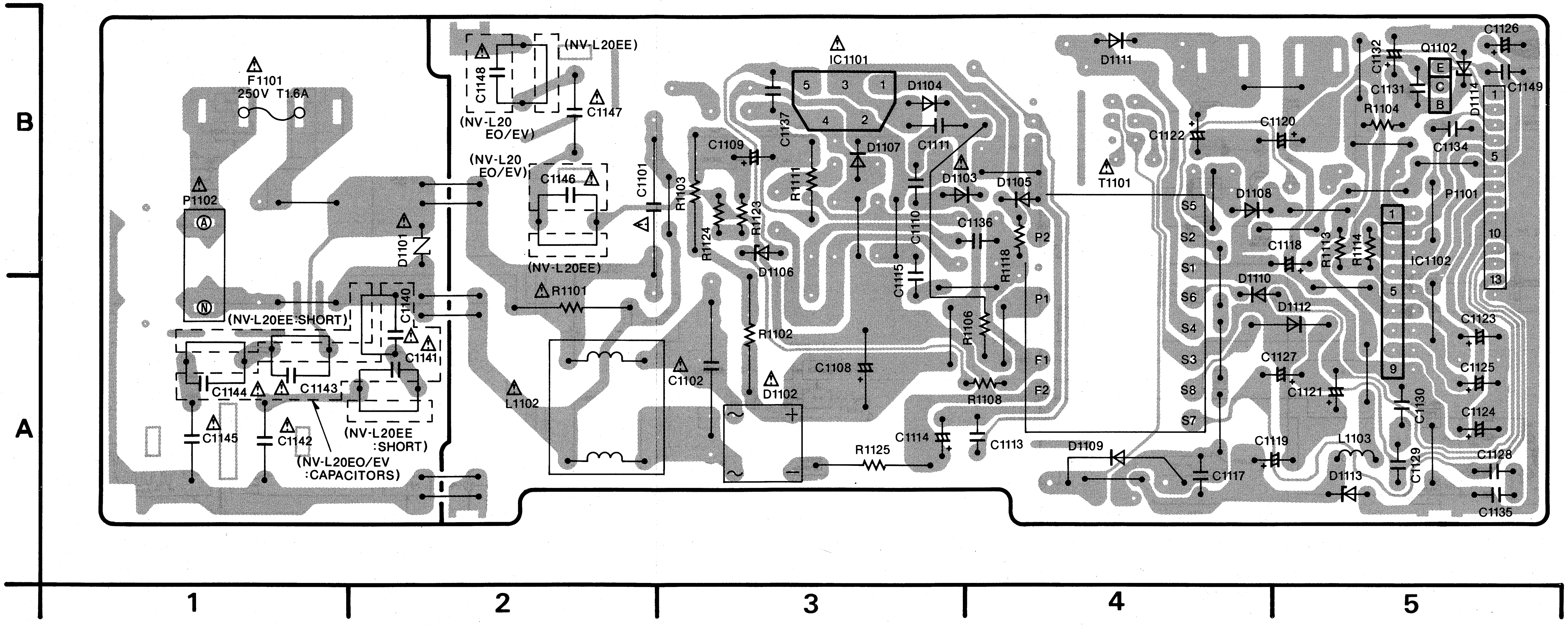
AL IN REC MODE
AL IN PLAYBACK MODE


AMP
(1H DELAY LINE)
Q303
BUFFER
FL303
L.P.F
VR302
Y-BAL
SUB MAIN C.B.A.
(VEP03590P:NV-L20EE)
(VEP03590H:NV-L20EO/EV)
P.B ⓛ
FROM SYSTEM CTL
PULSE
p-p 25Hz
HEAD SW
FROM SERVO
HEAD AMP SW
FROM SERVO
P002 2
P002 3
P002 4
P002 5
VIDEO HEAD L
VIDEO HEAD R
VIDEO HEAD L'
620±5μm
R (70μm)
L'(70μm)
L (70μm)
3.8M 4.8M (Hz)
P C.B.A.
7B)

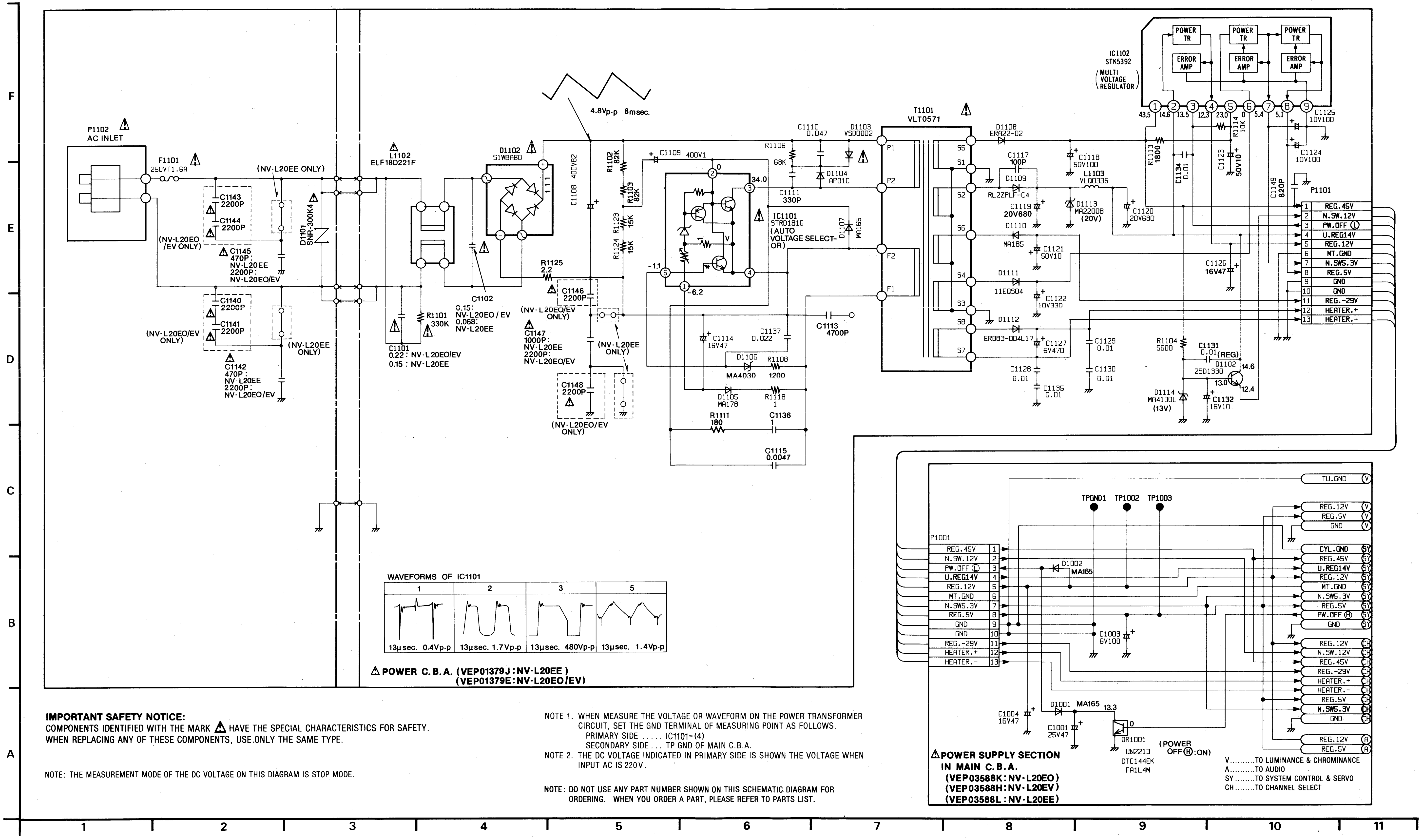
3-3. POWER C.B.A. (VEP01379E: NV-L20EO/EV) (VEP01379J: NV-L20EE)

POWER C.B.A.	
Transistor	
Q1102	B-5
Integrated Circuit	
IC1101 IC1102	B-3 B-5
Connector	
P1101 P1102	B-5 B-1

ADDRESS INFORMATION


B
A
1
2
3
4
5
F1101
250V T1.6A
P1102
Ⓐ
Ⓝ
D1101
(NV-L20EE:SHORT)
C1140
C1141
C1144
C1143
C1145
C1142
(NV-L20EE
:SHORT)
(NV-L20EO/EV
:CAPACITORS)
C1148
(NV-L20EE)
(NV-L20
EO/EV)
C1147
(NV-L20
EO/EV)
C1146
(NV-L20EE)
R1101
L1102
C1102
C1101
R1103
R1124
R1123
C1109
C1137
R1111
IC1101
5
3
1
4
2
D1104
D1107
C1111
D1103
D1105
D1106
R1102
C1110
C1115
C1136
R1118
R1106
C1108
D1102
R1108
R1125
C1114
C1113
P2
P1
F1
F2
D1111
C1122
T1101
S5
S2
S1
S6
S4
S3
S8
S7
C1120
D1108
C1118
R1113
R1114
D1110
D1112
C1127
C1121
C1119
L1103
D1113
D1109
C1117
C1130
C1129
C1132
C1131
Q1102
E
C
B
D1114
R1104
C1134
C1126
C1149
P1101
1
5
10
13
IC1102
1
5
9
C1123
C1125
C1124
C1128
C1135

3-4. POWER SCHEMATIC DIAGRAM


P1102 ⚠
AC INLET
F1101 ⚠
250VT1.6A
(NV-L20EE ONLY)
C1143 2200P
C1144 2200P
(NV-L20EO /EV ONLY)
⚠ C1145 470P : NV-L20EE 2200P : NV-L20EO/EV
D1101 SNR-300K4
C1140 2200P
C1141 2200P
(NV-L20EO/EV ONLY)
(NV-L20EE ONLY)
⚠ C1142 470P : NV-L20EE 2200P : NV-L20EO/EV
⚠ L1102 ELF18D221F
R1101 330K
C1101 0.22 : NV-L20EO/EV 0.15 : NV-L20EE
C1102 0.15 : NV-L20EO / EV 0.068 : NV-L20EE
D1102 ⚠ S1WBA60
4.8Vp-p 8msec.
C1108 400V82
R1125 2.2
⚠ C1146 2200P
(NV-L20EO/EV ONLY)
⚠ C1147 1000P : NV-L20EE 2200P : NV-L20EO/EV
(NV-L20EE ONLY)
C1148 2200P ⚠
(NV-L20EO/EV ONLY)
R1102 82K
R1103 82K
R1123 15K
R1124 15K
C1109 400V1
IC1101 STRD1816 (AUTO VOLTAGE SELECTOR)
34.0
-1.1
-6.2
C1110 0.047
D1103 VSD0002
R1106 68K
D1104 AP01C
C1111 330P
D1107 MA165
C1113 4700P
C1114 16V47
C1137 0.022
D1106 MA4030
R1108 1200
D1105 MA178
R1118 1
R1111 180
C1136 1
C1115 0.0047
T1101 ⚠ VLT0571
P1 P2 F2 F1
S5 S1 S2 S6 S4 S3 S8 S7
D1108 ERA22-02
C1117 100P
D1109 RL2ZPLF-C4
C1118 50V100
L1103 VLQ0335
C1119 20V680
D1113 MA2200B (20V)
D1110 MA165
C1120 20V680
C1121 50V10
D1111 11EQS04
C1122 10V330
D1112 ERB83-004L17
C1127 6V470
C1129 0.01
C1128 0.01
C1130 0.01
C1135 0.01
IC1102 STK5392 (MULTI VOLTAGE REGULATOR)
POWER TR
ERROR AMP
43.5 14.6 13.5 12.3 23.0 0 5.4 5.1
R1113 1800
C1134 0.01
C1123 50V10
R1114 10K
C1149 820P
C1125 10V100
C1124 10V100
P1101
C1126 16V47
R1104 5600
C1131 0.01 (REG)
D1102 2SD1330
14.6
13.0
12.4
D1114 MA4130L (13V)
C1132 16V10
1 REG.45V
2 N.SW.12V
3 PW.OFF Ⓛ
4 U.REG14V
5 REG.12V
6 MT.GND
7 N.SWS.3V
8 REG.5V
9 GND
10 GND
11 REG.-29V
12 HEATER.+
13 HEATER.-
WAVEFORMS OF IC1101
1 2 3 5
13μsec. 0.4Vp-p
13μsec. 1.7Vp-p
13μsec. 480Vp-p
13μsec. 1.4Vp-p
⚠ POWER C.B.A. (VEP01379J : NV-L20EE) (VEP01379E : NV-L20EO/EV)
TPGND1 TP1002 TP1003
P1001
D1002 MA165
C1003 6V100
C1004 16V47
D1001 MA165 13.3
C1001 25V47
QR1001 UN2213 DTC144EK FA1L4M
(POWER OFF Ⓗ : ON)
TU.GND Ⓥ
REG.12V Ⓥ
REG.5V Ⓥ
GND Ⓥ
CYL.GND SY
REG.45V SY
U.REG14V SY
REG.12V SY
MT.GND SY
N.SWS.3V SY
REG.5V SY
PW.OFF Ⓗ SY
GND SY
REG.12V CH
N.SW.12V CH
REG.45V CH
REG.-29V CH
HEATER.+ CH
HEATER.- CH
REG.5V CH
N.SWS.3V CH
GND CH
REG.12V Ⓐ
REG.5V Ⓐ
⚠POWER SUPPLY SECTION IN MAIN C.B.A.
(VEP03588K : NV-L20EO)
(VEP03588H : NV-L20EV)
(VEP03588L : NV-L20EE)
V..........TO LUMINANCE & CHROMINANCE
A..........TO AUDIO
SY........TO SYSTEM CONTROL & SERVO
CH........TO CHANNEL SELECT
F E D C B A
1 2 3 4 5 6 7 8 9 10 11

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

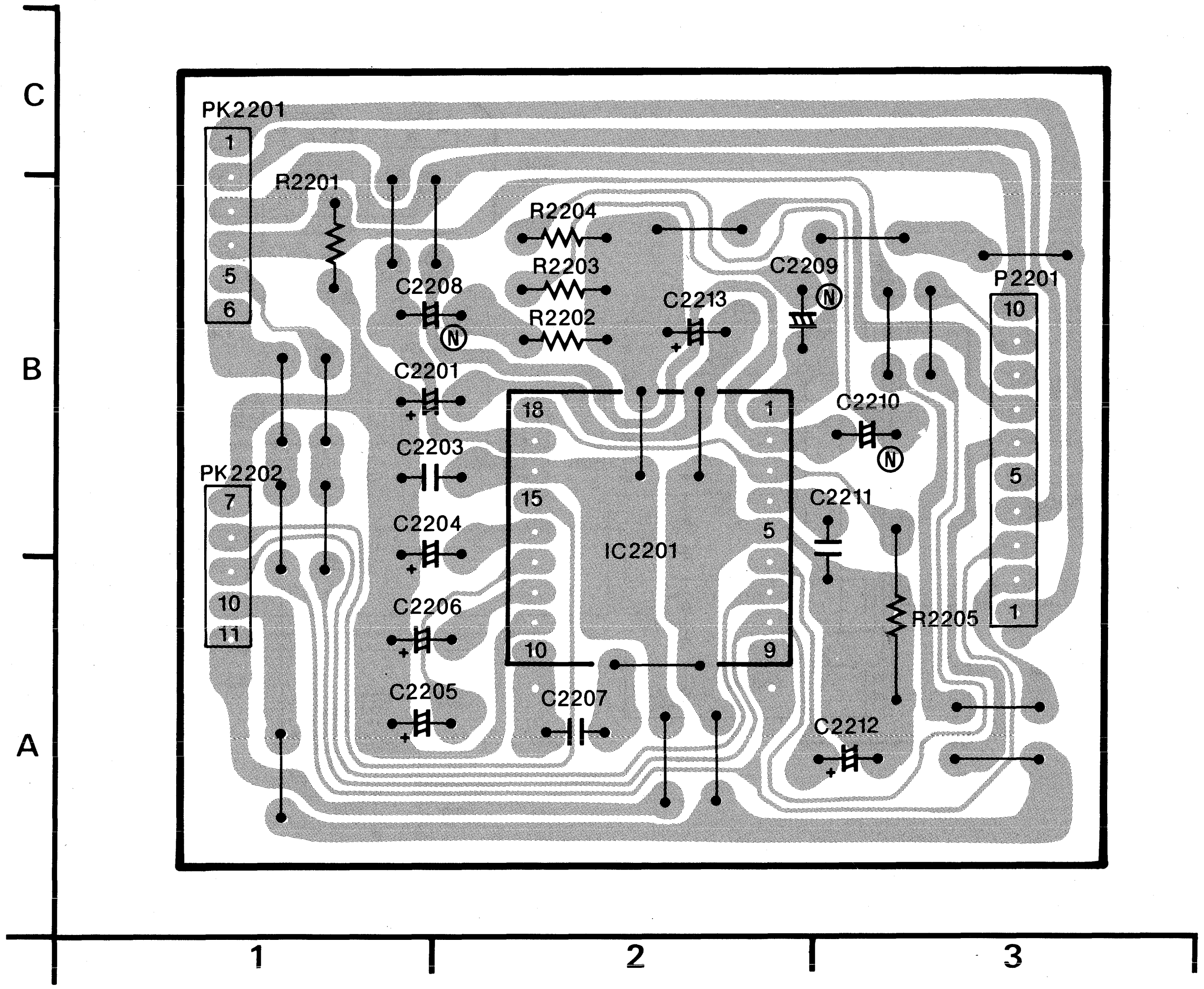
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE 1. WHEN MEASURE THE VOLTAGE OR WAVEFORM ON THE POWER TRANSFORMER CIRCUIT, SET THE GND TERMINAL OF MEASURING POINT AS FOLLOWS.
PRIMARY SIDE ...... IC1101-(4)
SECONDARY SIDE ... TP GND OF MAIN C.B.A.

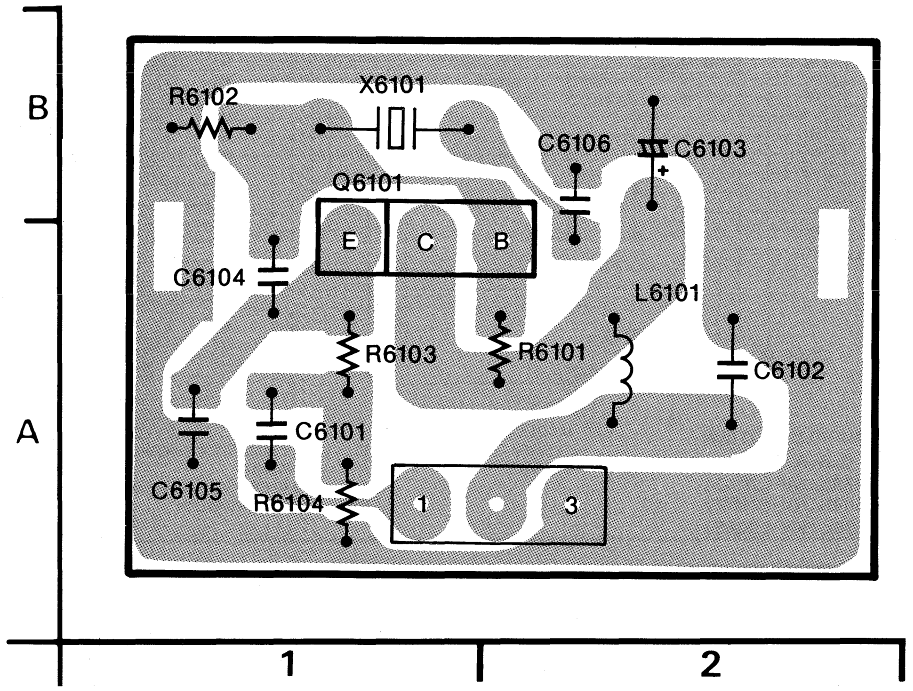
NOTE 2. THE DC VOLTAGE INDICATED IN PRIMARY SIDE IS SHOWN THE VOLTAGE WHEN INPUT AC IS 220V.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-5. CYLINDER DRIVE PACK C.B.A. (VEP02329A)



3-6. OSC PACK C.B.A. (VEP06583A)



CYLINDER DRIVE PACK C.B.A.	
Integrated Circuit	
IC2201	B-2
Connector	
P2201 PK2201 PK2202	B-3 C-1 A-1

ADDRESS INFORMATION

OSC PACK C.B.A.	
Transistor	
Q6101	B-1

ADDRESS INFORMATION

Back Page:
POWER Section

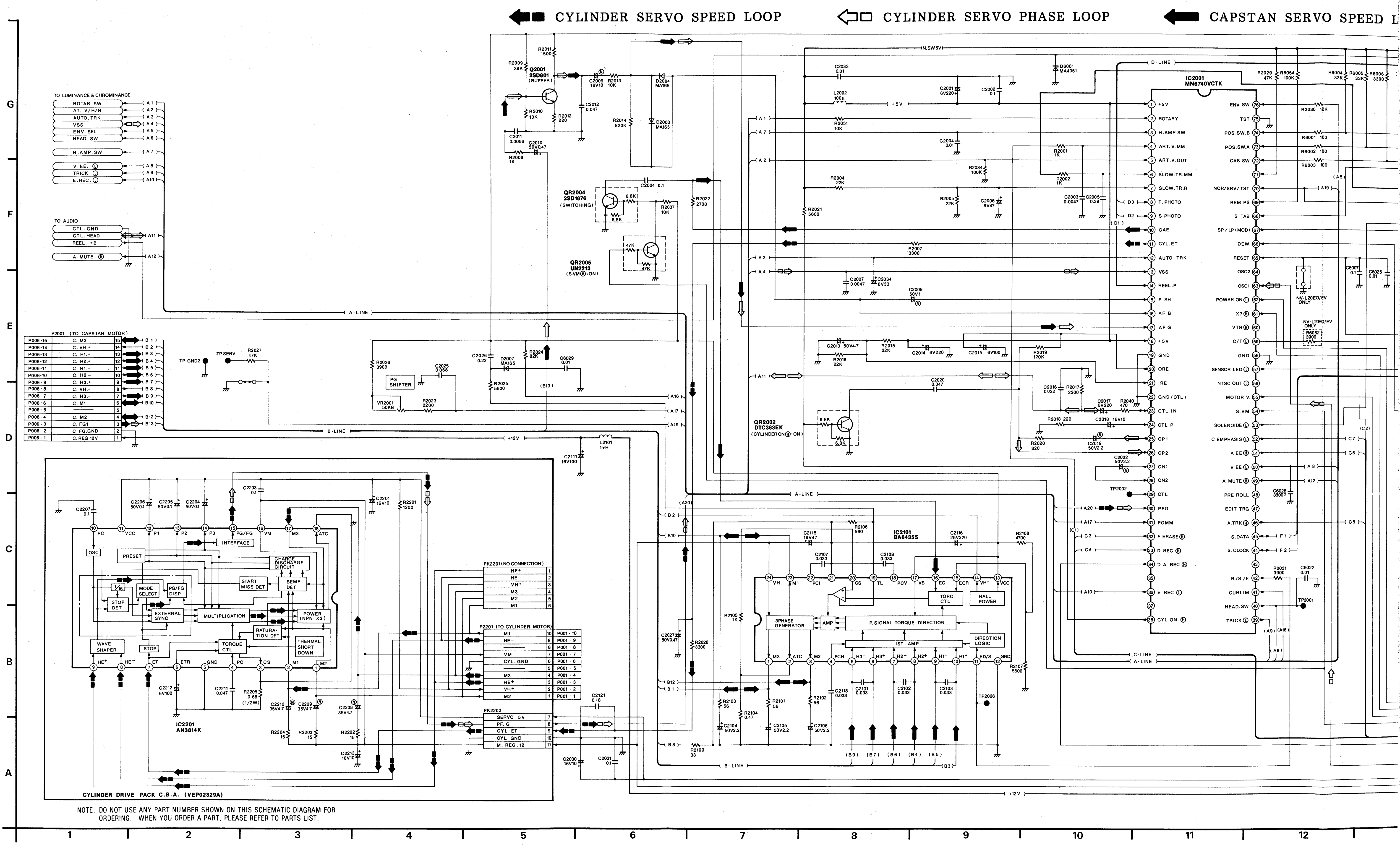
SYSTEM CONTROL & SERVO ICs DC VOLTAGE CHART

REF. NO.	IC2001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	5.0	5.0	0	0	0	0	2.5	3.3	3.2	4.2	4.2	1.7	2.4	0.3	2.5	2.5	2.5	5.0	0	2.5
PLAY	5.0	2.7	0	0	0	0	2.5	3.2	3.2	2.5	2.5	2.1	2.4	5.2	2.4	2.4	2.5	5.0	0	2.5
FF	5.0	5.0	0	0	0	0	2.5	3.3	3.2	2.5	4.2	1.7	2.4	2.7	2.5	2.5	2.5	5.0	0	2.5
REF. NO.	IC2001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	2.5	0	2.5	2.5	1.1	2.8	3.9	2.1	0	5.1	0.1	0	0	0	0	0.2	0	0	5.0	0
PLAY	2.5	0	2.4	2.4	1.1	2.3	3.8	3.0	3.5	1.1	3.1	0	0	0	5.0	0.2	0	4.9	5.0	3.0
FF	2.5	0	2.5	2.4	1.4	1.5	3.6	3.3	2.9	5.1	0.1	0	0	0	0	0.2	0	0	5.0	0
REF. NO.	IC2001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	4.9	2.0	0	4.7	4.5	0	0	5.0	0	0	5.0	0	5.0	0	0	5.0	4.6	0	0	0
PLAY	4.9	0	0	4.6	4.6	0	0	5.0	0	5.0	0	5.0	5.0	0	4.9	5.0	4.6	0	0	0
FF	4.9	0	0	4.7	4.7	0	0	5.0	0	0	5.0	0	5.0	0	0	5.0	4.6	0	0	0
REF. NO.	IC2001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76				
STOP	5.0	0	0	2.5	5.0	0	0	0.5	5.0	4.7	5.0	2.1	5.0	2.0	0	0.1				
PLAY	5.0	0	2.5	2.5	5.0	0	0	0.5	5.0	4.7	5.0	2.1	0	5.0	0	4.5				
FF	5.0	0	2.5	—	5.0	0	0	0.5	5.0	4.6	5.0	2.1	5.0	2.0	0	0.1				
REF. NO.	IC2101																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	7.2	0	7.2	1.3	2.1	2.2	2.1	2.2	2.2	2.1	2.0	0	5.1	3.8	2.8	0.1	5.1	0	0.4	0
PLAY	2.1	0	2.0	1.3	2.2	2.2	2.1	2.1	2.2	2.2	0	0	5.1	3.8	2.8	2.5	5.1	0.6	0.4	0
FF	3.2	0	3.2	1.3	2.2	2.2	2.2	2.2	2.2	2.2	0	0	5.1	3.9	2.8	2.5	5.1	0.5	0.4	0
REF. NO.	IC2101																			
MODE	21	22	23	24																
STOP	0	0.5	7.2	14.3																
PLAY	0	0.6	2.0	10.3																
FF	0	0.6	3.0	14.2																
REF. NO.	IC2201																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
STOP	13.3	13.8	0	0	0	2.6	4.2	0.5	0.4	1.3	5.2	4.3	4.3	4.0	5.1	13.8	13.8	0		
PLAY	9.8	9.8	0	0.5	0	2.6	2.5	0.5	0.5	2.8	5.1	3.7	3.8	3.8	1.0	9.9	9.8	0		
FF	13.8	13.6	0	0	0	2.6	4.2	0.5	0.4	1.2	5.2	4.3	4.3	4.0	5.1	13.6	13.6	0		
REF. NO.	IC6002										IC6003									
MODE	1	2	3	4	5	6	7	8			1	2	3							
STOP	0	1.6	0	0	0	0.3	0	5.1			5.0	5.1	0							
PLAY	0	1.5	0	0	0	0.3	0	5.1			5.0	5.0	0							
FF	0	1.5	0	0	0	0.3	0	5.1			5.0	5.1	0							

SYSTEM CONTROL & SERVO TRs DC VOLTAGE CHART

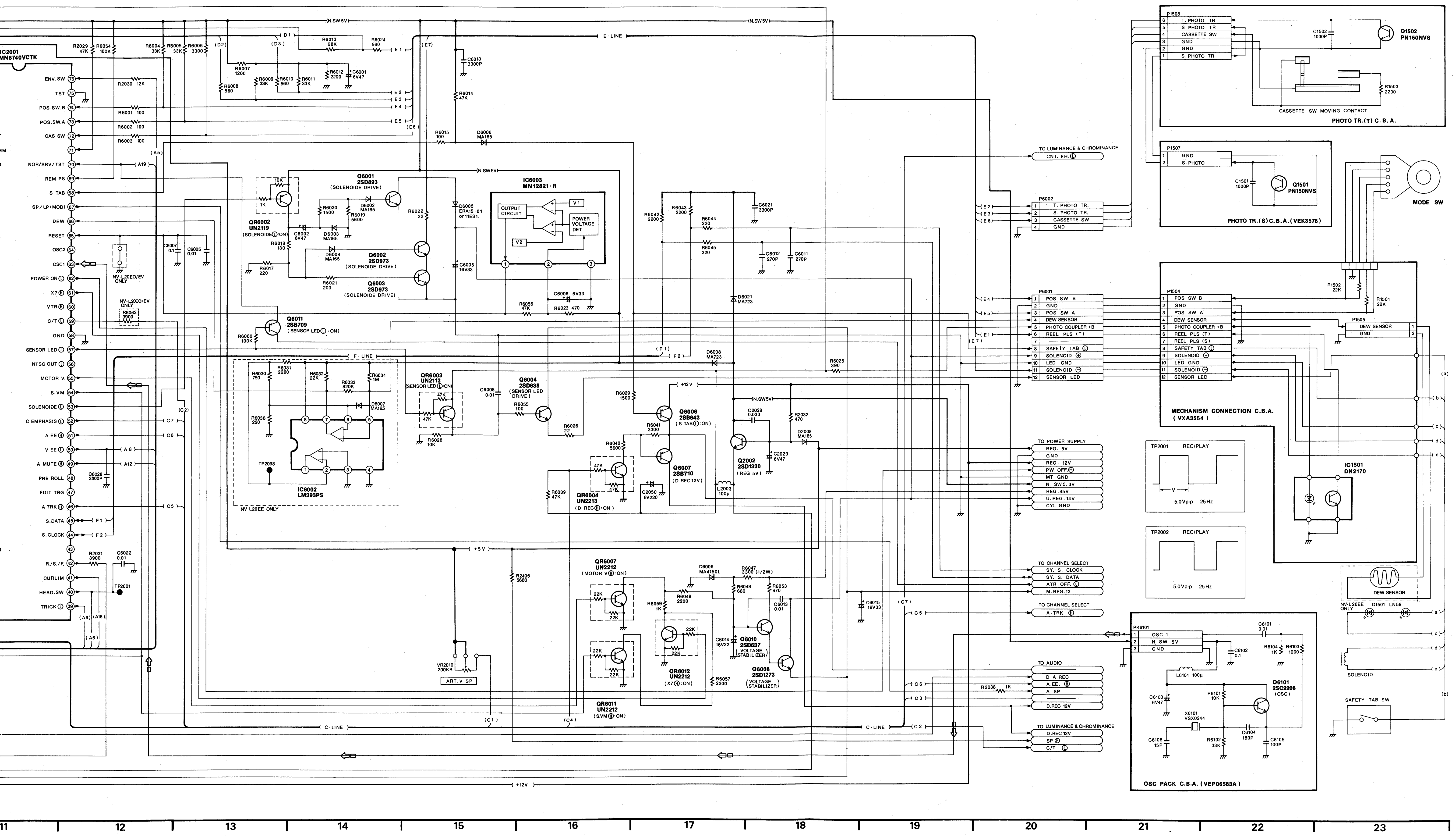
REF. NO.	Q2001			Q2002			Q6001			Q6002			Q6003			Q6004		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0.4	2.5	1.0	5.1	5.4	0	0	14.6	0.1	0	14.6	0.1	0	0.2	0	0.6	14.3	0.5
PLAY	0.4	2.4	1.0	5.1	5.4	5.8	0	14.4	0.1	0.1	14.4	0.1	0	0.2	0	0.5	10.4	0.3
FF	0.4	2.5	1.0	5.1	5.4	5.0	0	14.4	0.1	0.1	14.5	0.2	0	0	0	0.6	14.1	0.3
REF. NO.	Q6006			Q6007			Q6008			Q6010			Q6011					
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B			
STOP	12.3	12.3	11.5	12.3	−0.2	12.3	14.2	14.6	14.7	14.7	43.7	15.2	4.7	0	4.6			
PLAY	12.3	12.2	11.5	12.2	−0.2	12.2	10.4	14.4	11.0	11.0	43.8	11.5	4.7	0	4.6			
FF	12.3	12.3	11.5	12.3	−0.2	12.3	14.1	14.4	14.7	14.7	43.7	15.2	4.7	0	4.6			
REF. NO.	QR2002			QR2004			QR2005			QR6002			QR6003			QR6004		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	0	0	0	0	2.6	0	2.6	0	5.1	0	5.0	5.1	0.6	4.6	0	12.3	0
PLAY	0	0	4.9	0	0	2.6	0	2.6	0	5.1	0	5.0	5.1	0.3	4.6	0	12.3	0
FF	0	1.1	0	0	0	2.6	0	2.6	0	5.1	0	5.0	5.1	0.3	4.6	0	12.3	0
REF. NO.	QR6007			QR6011			QR6012											
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	15.2	0	0	15.2	0	0	0	0									
PLAY	0	0.1	4.9	0	11.5	0	0	0	0									
FF	0	15.2	0	0	15.2	0	0	0	0									

3-7. SYSTEM CONTROL & SERVO SCHEMATIC DIAGRAM


CYLINDER SERVO SPEED LOOP
CYLINDER SERVO PHASE LOOP
CAPSTAN SERVO SPEED L
TO LUMINANCE & CHROMINANCE
ROTAR. SW
AT. V/H/N
AUTO. TRK
VSS
ENV. SEL
HEAD. SW
H. AMP. SW
V. EE. Ⓛ
TRICK Ⓛ
E. REC. Ⓛ
TO AUDIO
CTL. GND
CTL. HEAD
REEL. +B
A. MUTE. Ⓗ
A-LINE
B-LINE
C-LINE
D-LINE
(N.SW5V)
+5V
+12V
P2001 (TO CAPSTAN MOTOR)
TP. GND2
TP. SERV
Q2001 2SD601 (BUFFER)
QR2004 2SD1676 (SWITCHING)
QR2005 UN2213 (S.VMⒽ·ON)
QR2002 DTC363EK (CYLINDER ONⒽ·ON)
PG SHIFTER
VR2001 50KB
L2101 1mH
IC2001 MN6740VCTK
IC2101 BA6435S
IC2201 AN3814K
PK2201 (NO CONNECTION)
P2201 (TO CYLINDER MOTOR)
PK2202
CYLINDER DRIVE PACK C.B.A. (VEP02329A)
3PHASE GENERATOR
P. SIGNAL TORQUE DIRECTION
IST AMP
DIRECTION LOGIC
TORQ. CTL
HALL POWER
OSC
PRESET
INTERFACE
CHARGE DISCHARGE CIRCUIT
START MISS DET
BEMF DET
MODE SELECT
PG/FG DISP
STOP DET
EXTERNAL SYNC
MULTIPLICATION
POWER (NPN X3)
RATURATION DET
TORQUE CTL
THERMAL SHORT DOWN
WAVE SHAPER
STOP
NV-L20EO/EV ONLY
TP2001
TP2002
TP2026
1
2
3
4
5
6
7
8
9
10
11
12
A
B
C
D
E
F
G

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

■ CAPSTAN SERVO SPEED LOOP ⇦ CAPSTAN SERVO PHASE LOOP


IC2001
MN6740VCTK
ENV. SW 76
TST 75
POS.SW.B 74
POS.SW.A 73
CAS SW 72
71
NOR/SRV/TST 70
REM PS 69
S TAB 68
SP/LP (MOD) 67
DEW 66
RESET 65
OSC2 64
OSC1 63
POWER ON Ⓛ 62
X7 Ⓗ 61
VTR Ⓗ 60
C/T Ⓛ 59
GND 58
SENSOR LED Ⓛ 57
NTSC OUT Ⓛ 56
MOTOR V. 55
S.VM 54
SOLENOIDE Ⓛ 53
C EMPHASIS Ⓛ 52
A EE Ⓗ 51
V EE Ⓛ 50
A MUTE Ⓗ 49
PRE ROLL 48
EDIT TRG 47
A.TRK Ⓗ 46
S.DATA 45
S.CLOCK 44
43
R./S./F. 42
CURLIM 41
HEAD.SW 40
TRICK Ⓛ 39
(N.SW 5V)
E-LINE
F-LINE
C-LINE
+5V
+12V
Q6001 2SD893 (SOLENOIDE DRIVE)
QR6002 UN2119 (SOLENOIDE Ⓛ : ON)
Q6002 2SD973 (SOLENOIDE DRIVE)
Q6003 2SD973 (SOLENOIDE DRIVE)
IC6003 MN12821-R
OUTPUT CIRCUIT
POWER VOLTAGE DET
Q6011 2SB709 (SENSOR LED Ⓛ : ON)
QR6003 UN2113 (SENSOR LED Ⓛ : ON)
Q6004 2SD638 (SENSOR LED DRIVE)
IC6002 LM393PS
NV-L20EE ONLY
NV-L20EO/EV ONLY
TP2098
TP2001
Q6006 2SB643 (S TAB Ⓛ : ON)
Q6007 2SB710 (D REC 12V)
QR6004 UN2213 (D REC Ⓗ : ON)
Q2002 2SD1330 (REG 5V)
QR6007 UN2212 (MOTOR V Ⓗ : ON)
QR6011 UN2212 (S.VM Ⓗ : ON)
QR6012 UN2212 (X7 Ⓗ : ON)
Q6010 2SD637 (VOLTAGE STABILIZER)
Q6008 2SD1273 (VOLTAGE STABILIZER)
VR2010 200KB
ART. V SP
TO LUMINANCE & CHROMINANCE
CNT. EH. Ⓛ
TO POWER SUPPLY
REG. 5V
GND
REG. 12V
PW. OFF Ⓗ
MT GND
N. SW 5.3V
REG. 45V
U. REG. 14V
CYL GND
TO CHANNEL SELECT
SY. S. CLOCK
SY. S. DATA
ATR. OFF. Ⓛ
M. REG. 12
TO CHANNEL SELECT
A. TRK. Ⓗ
TO AUDIO
D. A. REC
A.EE. Ⓗ
A SP
D.REC 12V
TO LUMINANCE & CHROMINANCE
D.REC 12V
SP Ⓗ
C/T Ⓛ
P6002
T. PHOTO TR.
S. PHOTO TR.
CASSETTE SW
GND
P6001
POS SW B
GND
POS SW A
DEW SENSOR
PHOTO COUPLER +B
REEL PLS (T)
SAFETY TAB Ⓛ
SOLENOID ⊕
LED GND
SOLENOID ⊖
SENSOR LED
P1504
REEL PLS (S)
P1505
DEW SENSOR
GND
P1508
T. PHOTO TR
S. PHOTO TR
CASSETTE SW
Q1502 PN150NVS
CASSETTE SW MOVING CONTACT
PHOTO TR. (T) C. B. A.
P1507
S. PHOTO
Q1501 PN150NVS
PHOTO TR. (S) C.B.A. (VEK3578)
MODE SW
MECHANISM CONNECTION C.B.A. (VXA3554)
IC1501 DN2170
TP2001 REC/PLAY
5.0Vp-p 25Hz
TP2002 REC/PLAY
5.0Vp-p 25Hz
DEW SENSOR
NV-L20EE ONLY
D1501 LN59
SOLENOID
SAFETY TAB SW
PK6101
OSC 1
N. SW. 5V
GND
Q6101 2SC2206 (OSC)
X6101 VSX0244
L6101 100µ
OSC PACK C.B.A. (VEP06583A)
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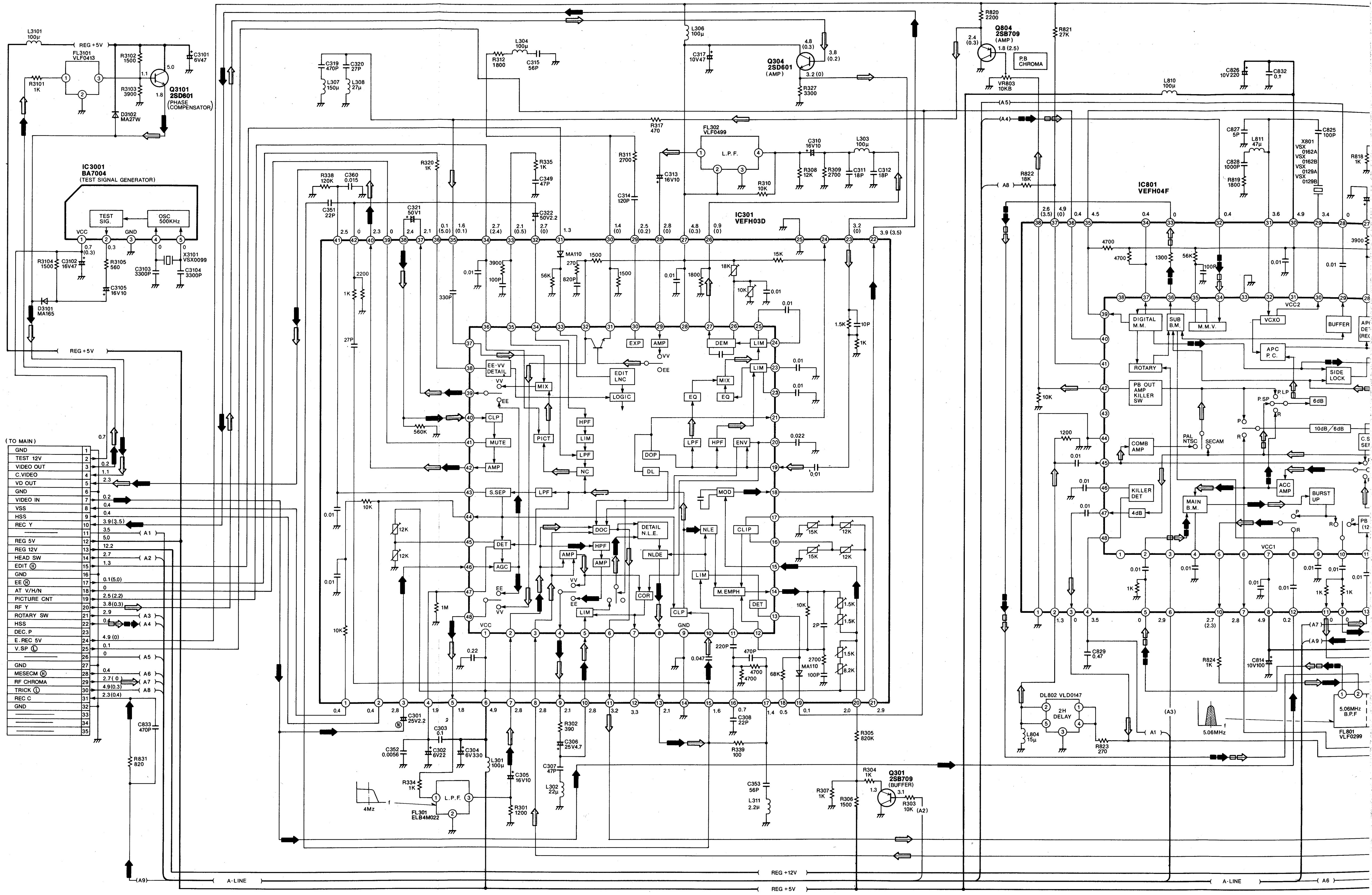
23

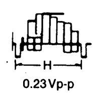
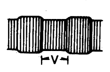
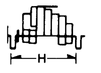
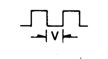
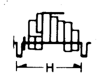
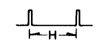
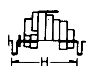
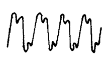
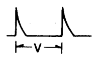
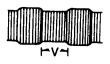
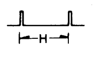
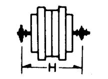
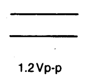
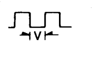
3-8. SUB MAIN SCHEMATIC DIAGRAM

⬅ MAIN SIGNAL PATH IN REC MODE
⇦ MAIN SIGNAL PATH IN PLAYBACK MODE

⬅ 5.06MHz PHASE ROTATIONAL SIGNAL IN REC MOD
⇦ 5.06MHz PHASE ROTATIONAL SIGNAL IN PLAYBAC


IC3001
BA7004
(TEST SIGNAL GENERATOR)
TEST SIG.
OSC 500KHz
Q3101 2SD601 (PHASE COMPENSATOR)
FL3101 VLF0413
D3102 MA27W
D3101 MA165
X3101 VSX0099
IC301
VEFH03D
Q304 2SD601 (AMP)
FL302 VLF0499
L.P.F.
FL301 ELB4M022
4Mz
Q301 2SB709 (BUFFER)
IC801
VEFH04F
Q804 2SB709 (AMP)
P.B CHROMA
DL802 VLD0147
2H DELAY
FL801 VLF0299
5.06MHz B.P.F
5.06MHz
(TO MAIN)
GND
TEST 12V
VIDEO OUT
C.VIDEO
VD OUT
GND
VIDEO IN
VSS
HSS
REC Y
REG 5V
REG 12V
HEAD SW
EDIT Ⓡ
GND
EE Ⓡ
AT V/H/N
PICTURE CNT
RF Y
ROTARY SW
HSS
DEC. P
E.REC 5V
V.SP Ⓛ
GND
MESECM Ⓡ
RF CHROMA
TRICK Ⓛ
REC C
GND
REG +5V
REG +12V
A-LINE
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12

WAVEFORM OF SUB MAIN C.B.A. PINS

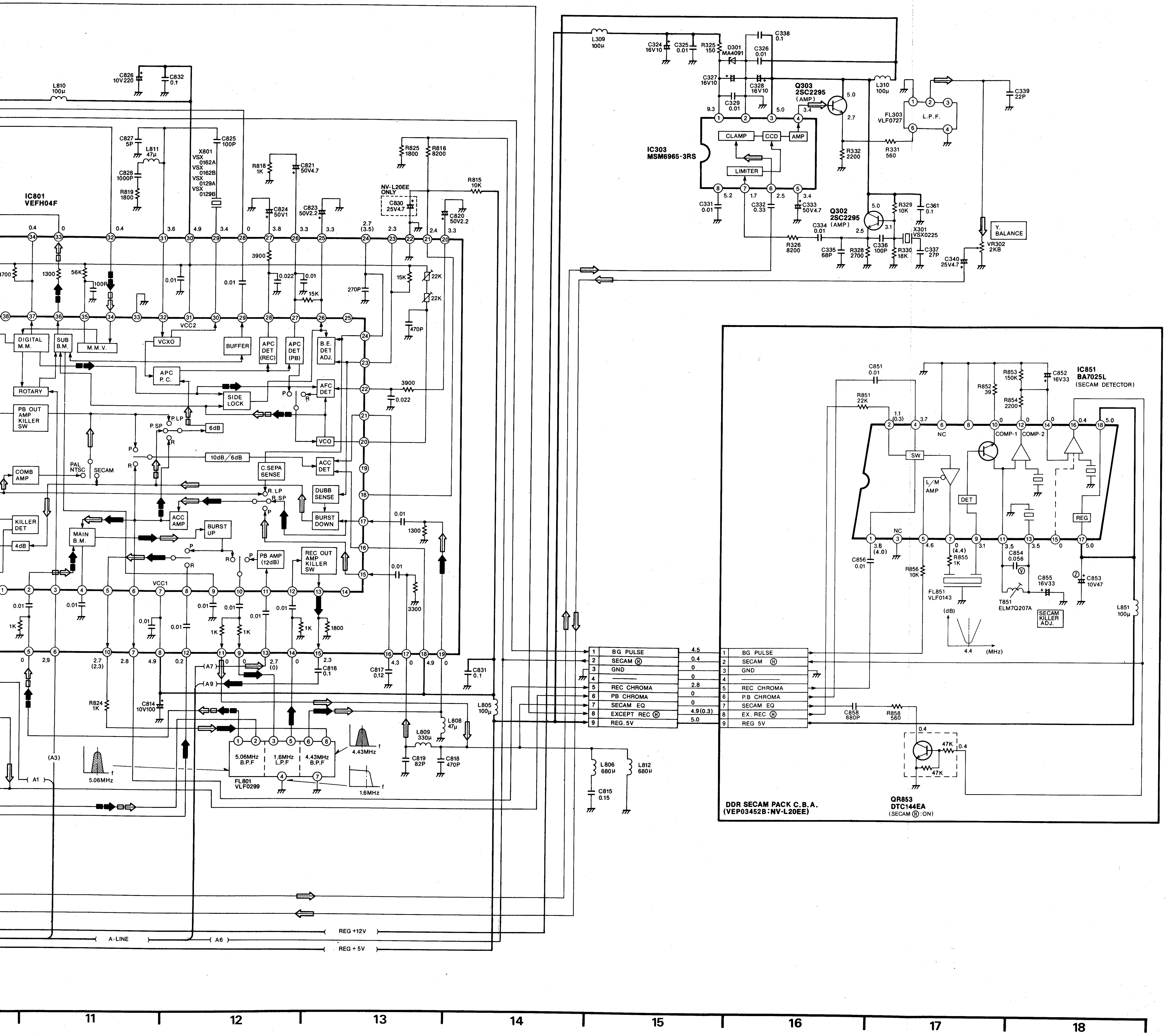
PIN NO.	WAVEFORM	PIN NO.	WAVEFORM
3	 0.23Vp-p (REC/P.B)	20	 0.25Vp-p (P.B)
4	 0.12Vp-p (REC/P.B)	21	 5.0Vp-p (REC/P.B)
5	 2.3Vp-p (REC/P.B)	22	 4.6Vp-p (REC/P.B)
7	 1.0Vp-p (REC/P.B)	26	 0.8Vp-p (REC/P.B)
8	 2.0Vp-p (REC/P.B)	29	 0.4Vp-p (P.B)
9	 4.6Vp-p (REC/P.B)	31	 0.5Vp-p (REC)
10	 1.2Vp-p (REC)		
14	 5.0Vp-p (REC/P.B)		

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS (　　) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

Back Page:
SYSTEM CONTROL & SERVO Section

ATIONAL SIGNAL IN REC MODE
ATIONAL SIGNAL IN PLAYBACK MODE



IC801 VEFH04F
DIGITAL M.M.
SUB B.M.
M.M.V.
VCXO
BUFFER
APC DET (REC)
APC DET (PB)
B.E. DET ADJ.
APC P.C.
SIDE LOCK
AFC DET
ROTARY
PB OUT AMP KILLER SW
6dB
VCO
10dB/6dB
ACC DET
C.SEPA SENSE
COMB AMP
PAL NTSC
SECAM
DUBB SENSE
ACC AMP
BURST UP
BURST DOWN
KILLER DET
4dB
MAIN B.M.
PB AMP (12dB)
REC OUT AMP KILLER SW
VCC1
VCC2
FL801 VLF0299
5.06MHz B.P.F
1.6MHz L.P.F
4.43MHz B.P.F
5.06MHz
4.43MHz
1.6MHz
A-LINE
A6
REG +12V
REG + 5V
IC303 MSM6965-3RS
CLAMP
CCD
AMP
LIMITER
Q303 2SC2295 (AMP)
Q302 2SC2295 (AMP)
FL303 VLF0727
L.P.F.
X301 VSX0225
Y. BALANCE
VR302 2KB
NV-L20EE ONLY
BG PULSE
SECAM Ⓗ
GND
REC CHROMA
PB CHROMA
SECAM EQ
EXCEPT REC Ⓗ
REG. 5V
P.B CHROMA
EX. REC Ⓗ
REG 5V
IC851 BA7025L (SECAM DETECTOR)
SW
L/M AMP
DET
COMP-1
COMP-2
REG
NC
FL851 VLF0143
T851 ELM7Q207A
SECAM KILLER ADJ.
QR853 DTC144EA (SECAM Ⓗ : ON)
DDR SECAM PACK C.B.A. (VEP03452B: NV-L20EE)
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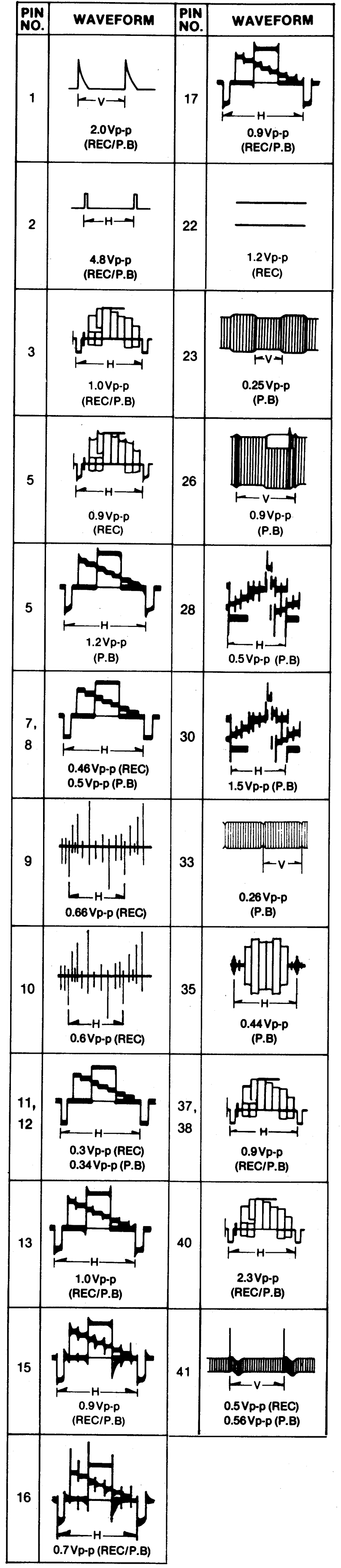
3—19

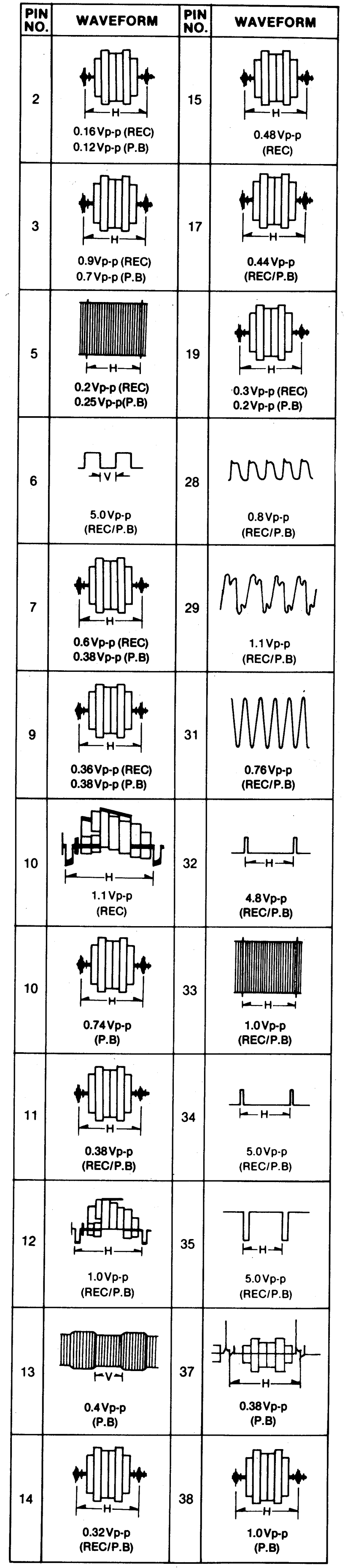
IC301 (VEFH03D)



PIN NO.	WAVEFORM	PIN NO.	WAVEFORM
1	2.0Vp-p (REC/P.B)	17	0.9Vp-p (REC/P.B)
2	4.8Vp-p (REC/P.B)	22	1.2Vp-p (REC)
3	1.0Vp-p (REC/P.B)	23	0.25Vp-p (P.B)
5	0.9Vp-p (REC)	26	0.9Vp-p (P.B)
5	1.2Vp-p (P.B)	28	0.5Vp-p (P.B)
7, 8	0.46Vp-p (REC) 0.5Vp-p (P.B)	30	1.5Vp-p (P.B)
9	0.66Vp-p (REC)	33	0.26Vp-p (P.B)
10	0.6Vp-p (REC)	35	0.44Vp-p (P.B)
11, 12	0.3Vp-p (REC) 0.34Vp-p (P.B)	37, 38	0.9Vp-p (REC/P.B)
13	1.0Vp-p (REC/P.B)	40	2.3Vp-p (REC/P.B)
15	0.9Vp-p (REC/P.B)	41	0.5Vp-p (REC) 0.56Vp-p (P.B)
16	0.7Vp-p (REC/P.B)		

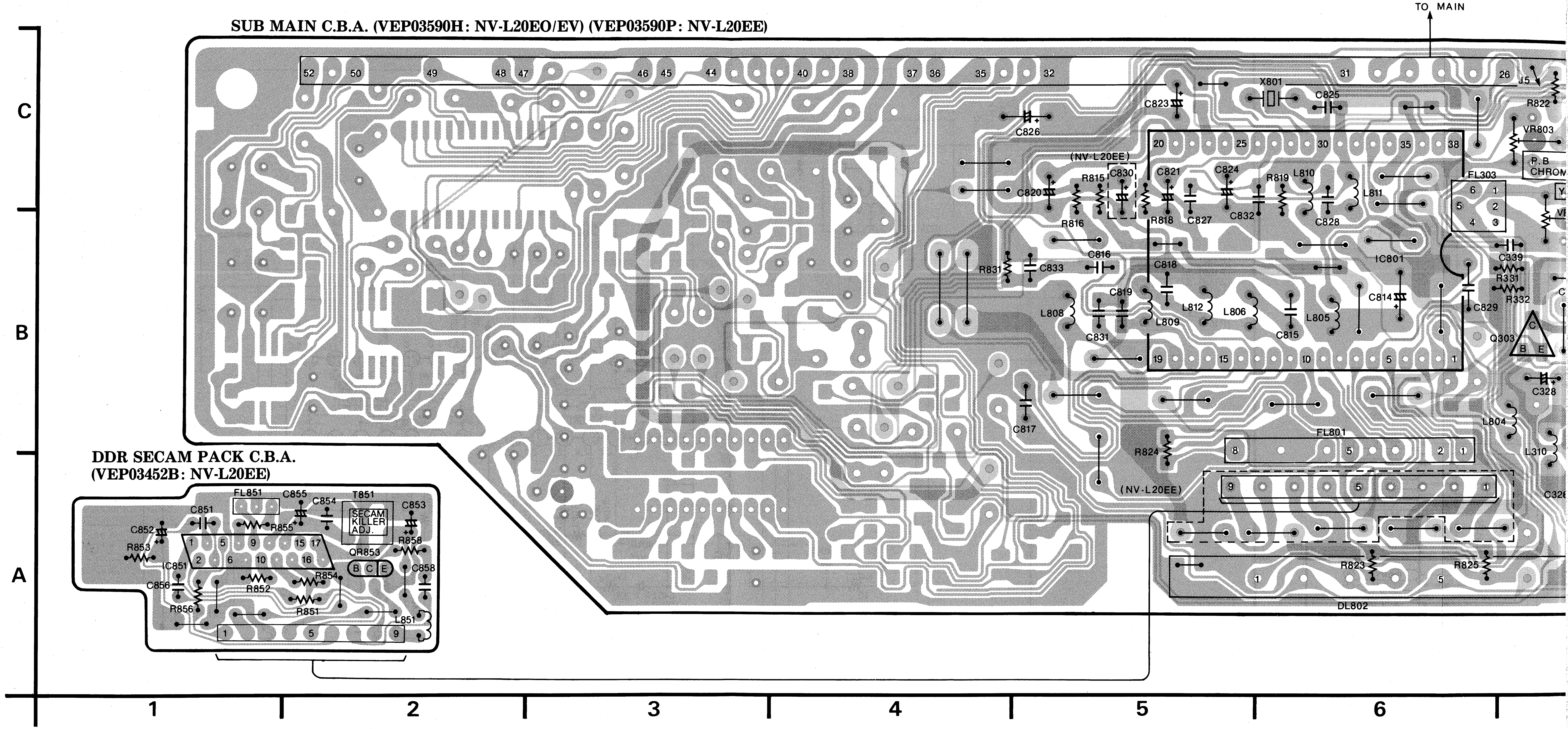
3—20

IC801 (VEFH04A)



PIN NO.	WAVEFORM	PIN NO.	WAVEFORM
2	0.16Vp-p (REC) 0.12Vp-p (P.B)	15	0.48Vp-p (REC)
3	0.9Vp-p (REC) 0.7Vp-p (P.B)	17	0.44Vp-p (REC/P.B)
5	0.2Vp-p (REC) 0.25Vp-p(P.B)	19	0.3Vp-p (REC) 0.2Vp-p (P.B)
6	5.0Vp-p (REC/P.B)	28	0.8Vp-p (REC/P.B)
7	0.6Vp-p (REC) 0.38Vp-p (P.B)	29	1.1Vp-p (REC/P.B)
9	0.36Vp-p (REC) 0.38Vp-p (P.B)	31	0.76Vp-p (REC/P.B)
10	1.1Vp-p (REC)	32	4.8Vp-p (REC/P.B)
10	0.74Vp-p (P.B)	33	1.0Vp-p (REC/P.B)
11	0.38Vp-p (REC/P.B)	34	5.0Vp-p (REC/P.B)
12	1.0Vp-p (REC/P.B)	35	5.0Vp-p (REC/P.B)
13	0.4Vp-p (P.B)	37	0.38Vp-p (P.B)
14	0.32Vp-p (REC/P.B)	38	1.0Vp-p (P.B)

3-9. SUB MAIN C.B.A. (VEP03590H: NV-L20EO/EV) (VEP03590P: NV-L20EE)


TO MAIN
SUB MAIN C.B.A. (VEP03590H: NV-L20EO/EV) (VEP03590P: NV-L20EE)
C
B
A
1
2
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4
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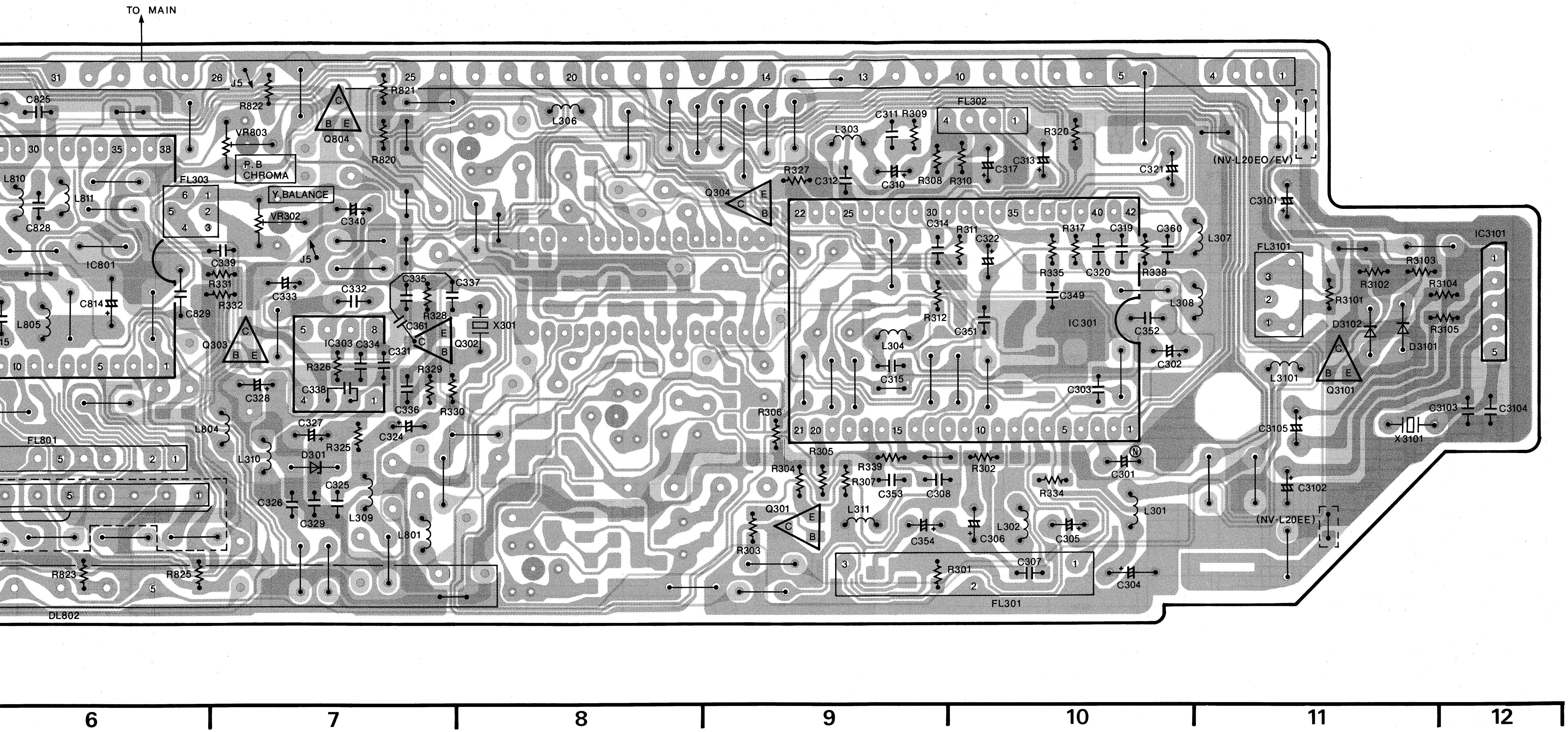
48
47
46
45
44
40
38
37
36
35
32
31
26
J5
R822
X801
C825
C823
C826
VR803
P.B CHROMA
(NV-L20EE)
C830
R815
C820
R816
C821
C824
R819
L810
L811
R818
C827
C832
C828
FL303
IC801
C816
R831
C833
C818
C819
L808
L812
L806
L805
C814
C339
R331
R332
C829
L809
C831
C815
Q303
C328
C817
L804
L310
R824
FL801
(NV-L20EE)
R823
R825
DL802
DDR SECAM PACK C.B.A.
(VEP03452B: NV-L20EE)
FL851
C855
C854
T851
C851
C853
C852
R855
SECAM KILLER ADJ.
R858
R853
QR853
IC851
C858
R854
C856
R852
R856
R851
L851

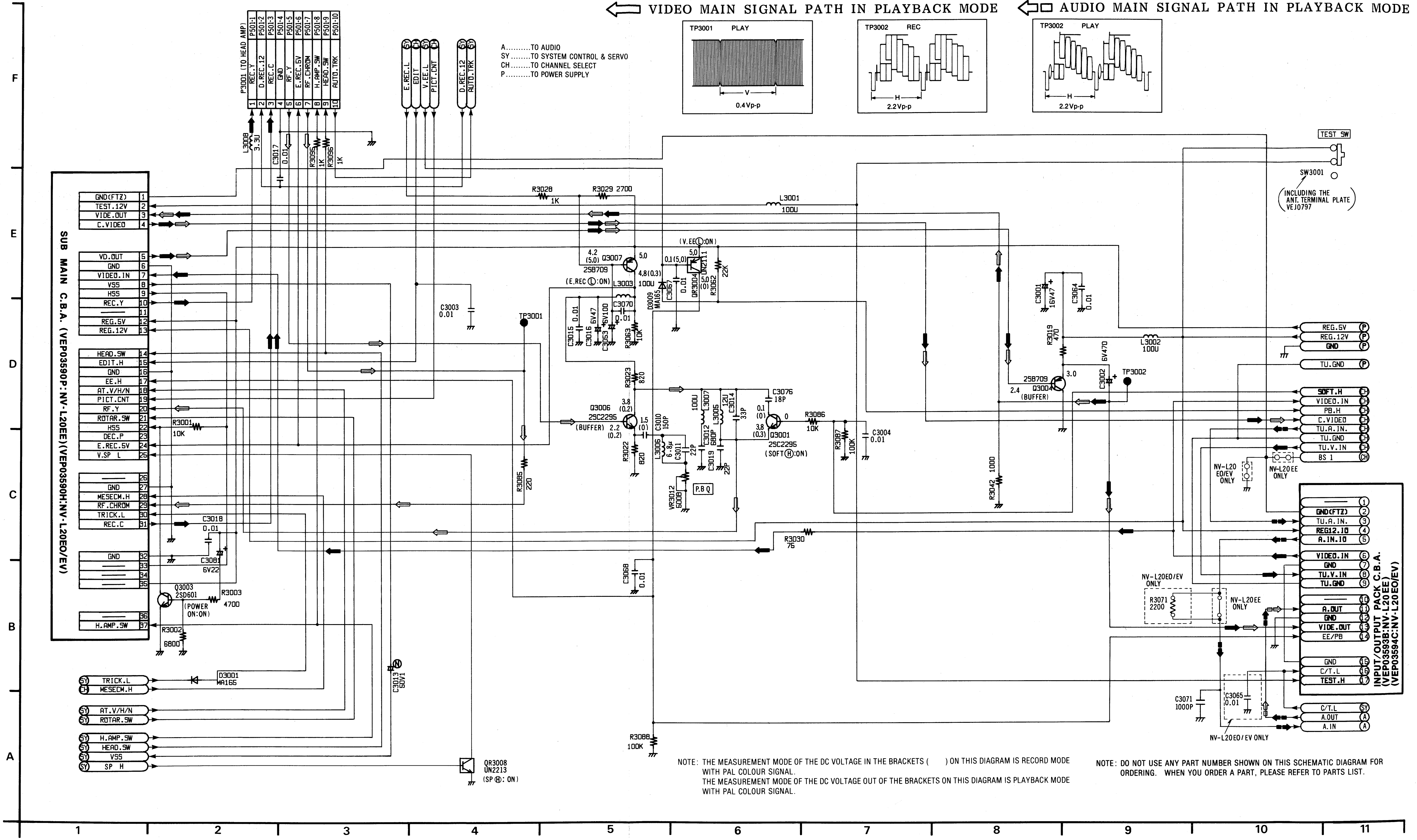
SUB MAIN C.B.A.	
Transistor	
Q301	A-9
Q302	B-7
Q303	B-7
Q304	C-9
Q804	C-7
Q3101	B-11
Transistor & Resistor	
QR853	A-2
Integrated Circuit	
IC301	B-10
IC303	B-7
IC801	B-6
IC851	A-1
IC3101	B-12
Adjustment	
T851	A-2
VR302	C-7
VR803	C-7

ADDRESS INFORMATION


TO MAIN
31
26
J5
R822
R821
25
20
14
13
10
5
4
1
C825
VR803
Q804
C
B
E
R820
L306
FL302
C311
R309
L303
R320
30
35
38
P.B CHROMA
FL303
Y.BALANCE
VR302
C340
L810
L811
C828
IC801
C339
R331
R332
C333
J5
C814
C829
L805
Q303
C332
C335
C337
R328
C361
X301
Q302
IC303
C334
C331
R326
C338
R329
C328
C336
R330
L804
C327
C324
D301
R325
L310
FL801
C326
C329
C325
L309
L801
R823
R825
DL802
R327
C312
C310
R308
R310
C317
C313
C321
(NV-L20EO/EV)
Q304
22
40
42
C314
R311
C322
R317
C319
C360
L307
R335
C320
R338
C349
R312
C351
IC301
C352
L308
L304
C315
C302
C303
R306
21
20
15
R305
R339
R302
C301
R304
R307
C353
C308
R334
Q301
L311
L302
L301
R303
C354
C306
C305
3
R301
C307
FL301
2
C304
C3101
FL3101
IC3101
R3103
R3102
R3104
R3101
D3102
D3101
R3105
L3101
Q3101
C3103
C3104
C3105
X3101
C3102
(NV-L20EE)
6
7
8
9
10
11
12

3-10. LUMINANCE & CHROMINANCE SCHEMATIC DIAGRAM

VIDEO MAIN SIGNAL PATH IN REC MODE
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE
AUDIO MAIN SIGNAL PATH IN REC MODE
AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE



TP3001 PLAY
V
0.4Vp-p
TP3002 REC
H
2.2Vp-p
TP3002 PLAY
H
2.2Vp-p
A..........TO AUDIO
SY........TO SYSTEM CONTROL & SERVO
CH........TO CHANNEL SELECT
P..........TO POWER SUPPLY
P3001 (TO HEAD AMP)
P501-1 REC.Y
P501-2 D.REC.12
P501-3 REC.C
P501-4 GND
P501-5 RF.Y
P501-6 E.REC.5V
P501-7 RF.CHROM
P501-8 H.AMP.SW
P501-9 HEAD.SW
P501-10 AUTO.TRK
E.REC.L
EDIT
V.EE.L
PICT.CNT
D.REC.12
AUTO.TRK
L3008 3.3U
C3017 0.01
R3095 1K
R3096 1K
SUB MAIN C.B.A. (VEP03590P:NV-L20EE)(VEP03590H:NV-L20EO/EV)
1 GND(FTZ)
2 TEST.12V
3 VIDE.OUT
4 C.VIDEO
5 VD.OUT
6 GND
7 VIDEO.IN
8 VSS
9 HSS
10 REC.Y
11
12 REG.5V
13 REG.12V
14 HEAD.SW
15 EDIT.H
16 GND
17 EE.H
18 AT.V/H/N
19 PICT.CNT
20 RF.Y
21 ROTAR.SW
22 HSS
23 DEC.P
24 E.REC.5V
25 V.SP L
26
27 GND
28 MESECM.H
29 RF.CHROM
30 TRICK.L
31 REC.C
32 GND
33
34
35
36
37 H.AMP.SW
R3001 10K
C3018 0.01
C3081 6V22
Q3003 2SD601
R3003 4700
(POWER ON:ON)
R3002 6800
TRICK.L
MESECM.H
AT.V/H/N
ROTAR.SW
H.AMP.SW
HEAD.SW
VSS
SP H
D3001 MA165
C3013 50V1
QR3008 UN2213
(SP Ⓗ: ON)
C3003 0.01
TP3001
R3085 220
R3028 1K
R3029 2700
4.2 (5.0) Q3007 2SB709
5.0
4.8(0.3)
(E.REC Ⓛ:ON)
L3003 100U
C3015 0.01
C3016 6V47
C3053 6V100
C3070 0.01
R3063 10K
D3009 MA165
C3067 0.01
QR3004 UN2111
(V.EE Ⓛ:ON)
0.1(5.0)
5.0
5.0 (0)
R3062 22K
R3023 820
Q3006 2SC2295 (BUFFER)
3.8 (0.2)
2.2 (0.2)
1.5 (0)
R3022 820
C3010 150P
L3006 6.8μ
C3011 22P
VR3012 500B
P.B Q
L3007 100U
C3012 680P
L3005 12U
C3019 22P
C3014 33P
C3076 18P
Q3001 2SC2295 (SOFT Ⓗ:ON)
0.1 (0)
3.8 (0.3)
0
R3086 10K
R3087 10K
C3004 0.01
C3068 0.01
R3030 75
R3088 100K
L3001 100U
TEST SW
SW3001
(INCLUDING THE ANT. TERMINAL PLATE VEJ0797)
C3001 16V47
C3064 0.01
R3019 470
C3002 6V470
L3002 100U
TP3002
2SB709 Q3004 (BUFFER)
2.4
3.0
R3042 1000
REG.5V
REG.12V
GND
TU.GND
SOFT.H
VIDEO.IN
PB.H
C.VIDEO
TU.A.IN.
TU.GND
TU.V.IN
BS 1
NV-L20 EO/EV ONLY
NV-L20EE ONLY
INPUT/OUTPUT PACK C.B.A. (VEP03593B:NV-L20EE) (VEP03594C:NV-L20EO/EV)
1
2 GND(FTZ)
3 TU.A.IN.
4 REG12.10
5 A.IN.10
6 VIDEO.IN
7 GND
8 TU.V.IN
9 TU.GND
10
11 A.OUT
12 GND
13 VIDE.OUT
14 EE/PB
15 GND
16 C/T.L
17 TEST.H
NV-L20EO/EV ONLY
R3071 2200
NV-L20EE ONLY
C3071 1000P
C3065 0.01
NV-L20EO/EV ONLY
C/T.L
A.OUT
A.IN
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

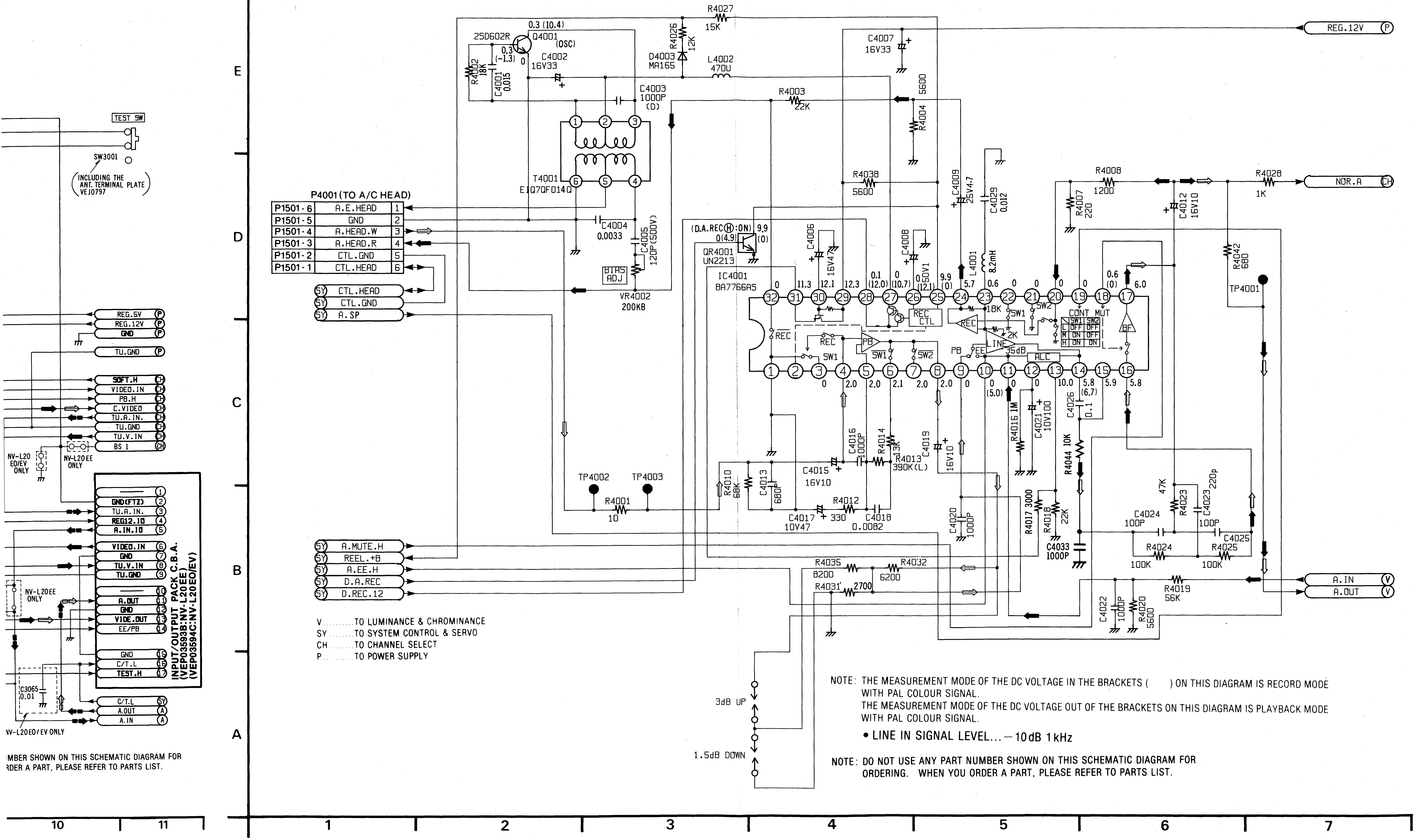
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

Back Page:
SUB MAIN Section

PATH IN REC MODE
PATH IN PLAYBACK MODE

3-11. AUDIO SCHEMATIC DIAGRAM

MAIN SIGNAL PATH IN REC MODE   MAIN SIGNAL PATH IN PLAYBACK MODE


E
D
C
B
A
10
11
1
2
3
4
5
6
7
TEST SW
SW3001
INCLUDING THE ANT. TERMINAL PLATE VEJ0797
REG.5V
REG.12V
GND
TU.GND
SOFT.H
VIDEO.IN
PB.H
C.VIDEO
TU.A.IN.
TU.GND
TU.V.IN
BS 1
NV-L20 EO/EV ONLY
NV-L20 EE ONLY
GND(FTZ)
TU.A.IN.
REG12.10
A.IN.10
VIDEO.IN
GND
TU.V.IN
TU.GND
A.OUT
GND
VIDE.OUT
EE/PB
GND
C/T.L
TEST.H
INPUT/OUTPUT PACK C.B.A. (VEP03593B:NV-L20EE) (VEP03594C:NV-L20EO/EV)
C3065 0.01
C/T.L
A.OUT
A.IN
NV-L20EO/EV ONLY
P4001 (TO A/C HEAD)
P1501-6 A.E.HEAD 1
P1501-5 GND 2
P1501-4 A.HEAD.W 3
P1501-3 A.HEAD.R 4
P1501-2 CTL.GND 5
P1501-1 CTL.HEAD 6
CTL.HEAD
CTL.GND
A.SP
2SD602R Q4001 (OSC)
0.3 (10.4)
0.3 (-1.3)
R4002 18K
C4001 0.015
C4002 16V33
C4003 1000P (D)
T4001 EIQ7QF014Q
C4004 0.0033
C4005 120P (500V)
BIAS ADJ
VR4002 200KB
R4027 15K
R4026 12K
D4003 MA165
L4002 470U
R4003 22K
C4007 16V33
R4004 5600
R4038 5600
C4009 25V4.7
C4029 0.012
L4001 8.2mH
(D.A.REC Ⓗ:ON) 9.9 0(4.9) (0)
QR4001 UN2213
IC4001 BA7766AS
C4006 16V47
C4008 50V1
REC CTL
REC
PB
SW1
SW2
LINE
35dB
ALC
CONT MUT
BF
18K
2K
R4008 1200
R4007 220
C4012 16V10
R4028 1K
NOR.A
R4042 680
TP4001
REG.12V
TP4002
TP4003
R4001 10
R4010 68K
C4013 680P
C4015 16V10
C4016 1000P
R4014 13K
R4013 390K(L)
C4019 16V10
R4012 330
C4017 10V47
C4018 0.0082
C4020 1000P
R4016 1M
C4021 10V100
C4026 0.1
R4044 10K
R4017 3000
R4018 22K
C4033 1000P
C4024 100P
R4023 47K
C4023 220p
C4025 100P
R4024 100K
R4025 100K
R4019 56K
A.IN
A.OUT
C4022 1000P
R4020 5600
A.MUTE.H
REEL.+B
A.EE.H
D.A.REC
D.REC.12
R4035 8200
R4032 6200
R4031 2700
3dB UP
1.5dB DOWN

V.......TO LUMINANCE & CHROMINANCE
SY.......TO SYSTEM CONTROL & SERVO
CH.......TO CHANNEL SELECT
P.......TO POWER SUPPLY

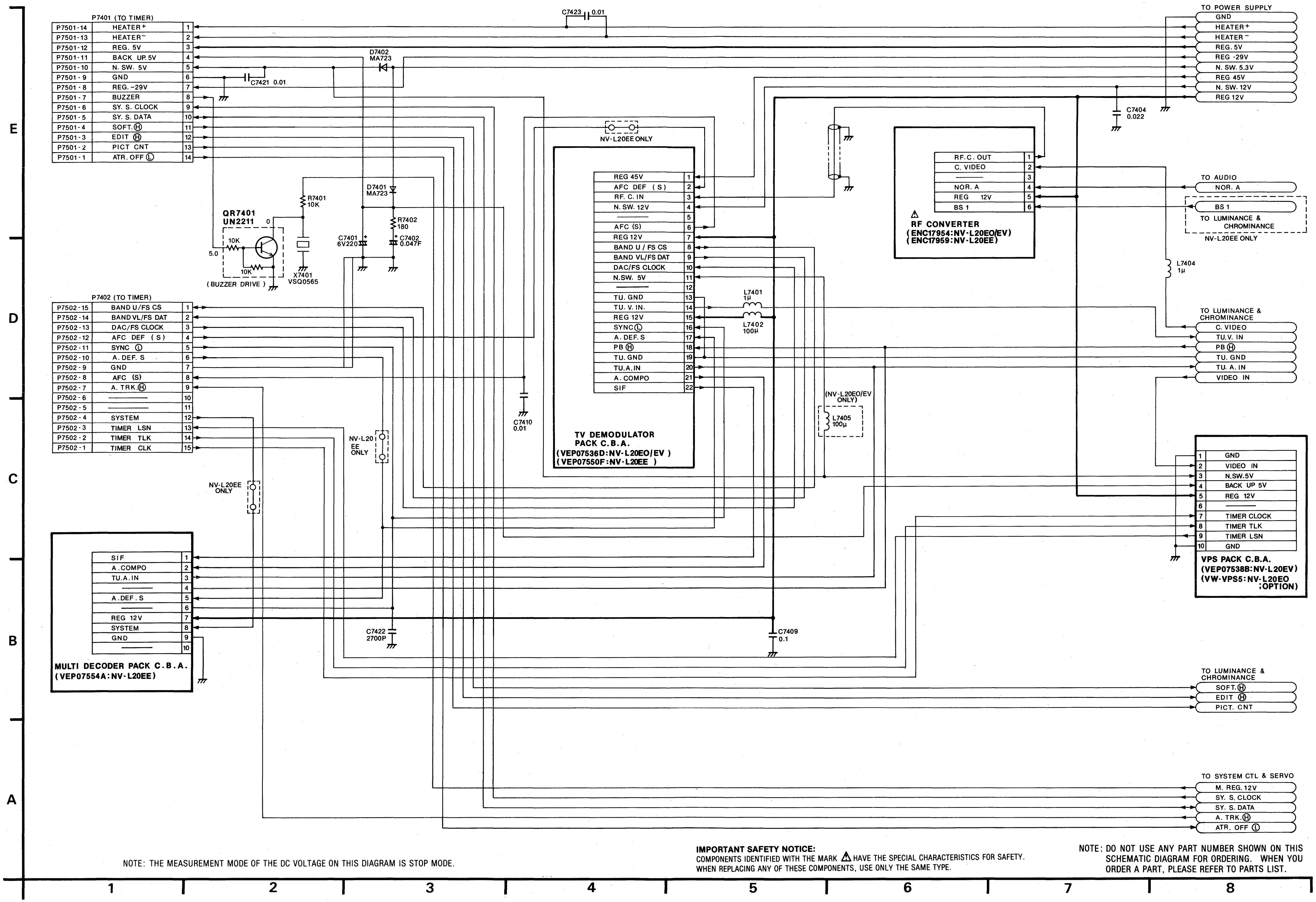
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

- LINE IN SIGNAL LEVEL... −10dB 1kHz

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

MBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR
RDER A PART, PLEASE REFER TO PARTS LIST.

3-12. CHANNEL SELECT SCHEMATIC DIAGRAM


P7401 (TO TIMER)
P7501-14 HEATER+ 1
P7501-13 HEATER− 2
P7501-12 REG. 5V 3
P7501-11 BACK UP 5V 4
P7501-10 N. SW. 5V 5
P7501-9 GND 6
P7501-8 REG. −29V 7
P7501-7 BUZZER 8
P7501-6 SY. S. CLOCK 9
P7501-5 SY. S. DATA 10
P7501-4 SOFT.Ⓗ 11
P7501-3 EDIT Ⓗ 12
P7501-2 PICT CNT 13
P7501-1 ATR. OFF Ⓛ 14
C7423 0.01
C7421 0.01
D7402 MA723
D7401 MA723
R7401 10K
R7402 180
C7401 6V220
C7402 0.047F
QR7401 UN2211
10K
10K
5.0
0
X7401 VSQ0565
(BUZZER DRIVE)
P7402 (TO TIMER)
P7502-15 BAND U/FS CS 1
P7502-14 BAND VL/FS DAT 2
P7502-13 DAC/FS CLOCK 3
P7502-12 AFC DEF (S) 4
P7502-11 SYNC Ⓛ 5
P7502-10 A. DEF. S 6
P7502-9 GND 7
P7502-8 AFC (S) 8
P7502-7 A. TRK.Ⓗ 9
P7502-6 10
P7502-5 11
P7502-4 SYSTEM 12
P7502-3 TIMER LSN 13
P7502-2 TIMER TLK 14
P7502-1 TIMER CLK 15
NV-L20EE ONLY
NV-L20 EE ONLY
NV-L20EE ONLY
C7410 0.01
REG 45V 1
AFC DEF (S) 2
RF. C. IN 3
N. SW. 12V 4
5
AFC (S) 6
REG 12V 7
BAND U / FS CS 8
BAND VL/FS DAT 9
DAC/FS CLOCK 10
N.SW. 5V 11
12
TU. GND 13
TU. V. IN. 14
REG 12V 15
SYNCⓁ 16
A. DEF. S 17
PB Ⓗ 18
TU. GND 19
TU.A.IN 20
A. COMPO 21
SIF 22
TV DEMODULATOR PACK C.B.A.
(VEP07536D:NV-L20EO/EV)
(VEP07550F:NV-L20EE)
L7401 1μ
L7402 100μ
(NV-L20EO/EV ONLY)
L7405 100μ
C7404 0.022
RF.C. OUT 1
C. VIDEO 2
3
NOR. A 4
REG 12V 5
BS 1 6
⚠ RF CONVERTER
(ENC17954:NV-L20EO/EV)
(ENC17959:NV-L20EE)
TO POWER SUPPLY
GND
HEATER+
HEATER−
REG. 5V
REG −29V
N. SW. 5.3V
REG 45V
N. SW. 12V
REG 12V
TO AUDIO
NOR. A
BS 1
TO LUMINANCE & CHROMINANCE
NV-L20EE ONLY
L7404 1μ
TO LUMINANCE & CHROMINANCE
C. VIDEO
TU.V. IN
PB Ⓗ
TU. GND
TU. A. IN
VIDEO IN
1 GND
2 VIDEO IN
3 N.SW.5V
4 BACK UP 5V
5 REG 12V
6
7 TIMER CLOCK
8 TIMER TLK
9 TIMER LSN
10 GND
VPS PACK C.B.A.
(VEP07538B:NV-L20EV)
(VW-VPS5:NV-L20EO ;OPTION)
SIF 1
A.COMPO 2
TU.A.IN 3
4
A.DEF.S 5
6
REG 12V 7
SYSTEM 8
GND 9
10
MULTI DECODER PACK C.B.A.
(VEP07554A:NV-L20EE)
C7422 2700P
C7409 0.1
TO LUMINANCE & CHROMINANCE
SOFT.Ⓗ
EDIT Ⓗ
PICT. CNT
TO SYSTEM CTL & SERVO
M. REG.12V
SY. S. CLOCK
SY. S. DATA
A. TRK.Ⓗ
ATR. OFF Ⓛ
E
D
C
B
A
1
2
3
4
5
6
7
8

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

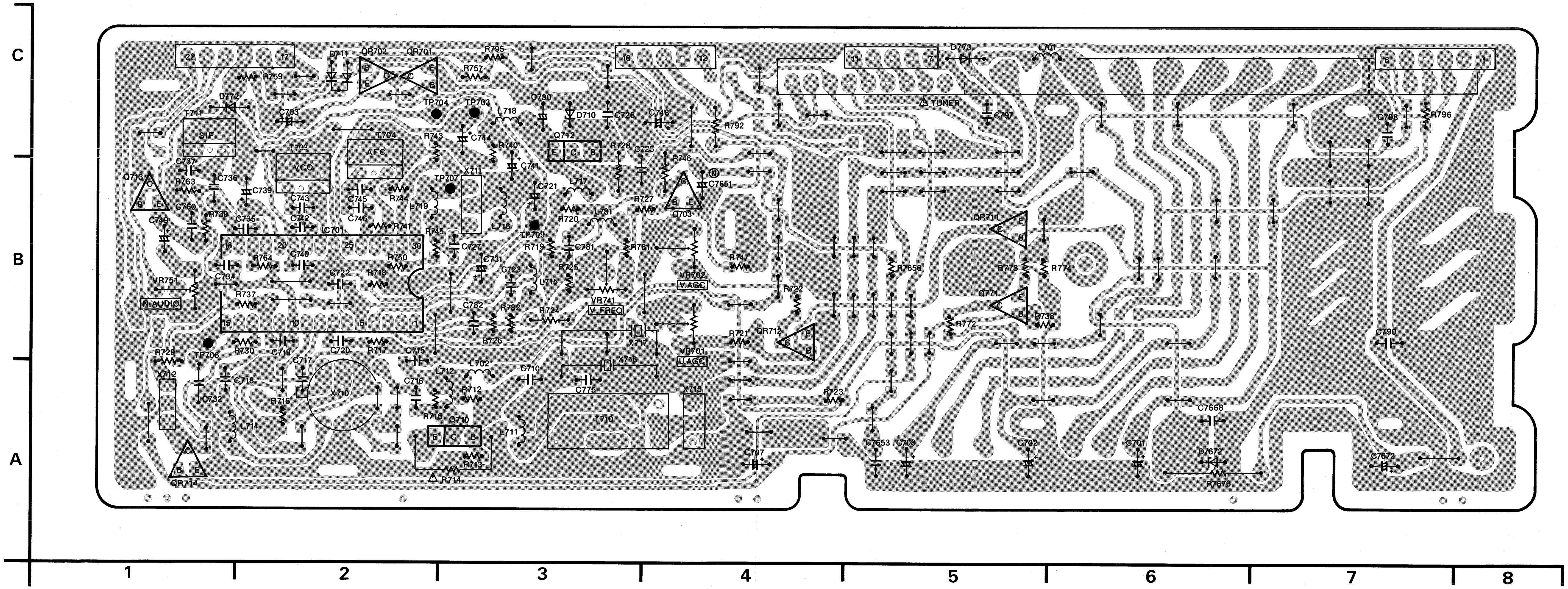
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-13. TV DEMODULATOR PACK C.B.A. (VEP07536D: NV-L20EO/EV)

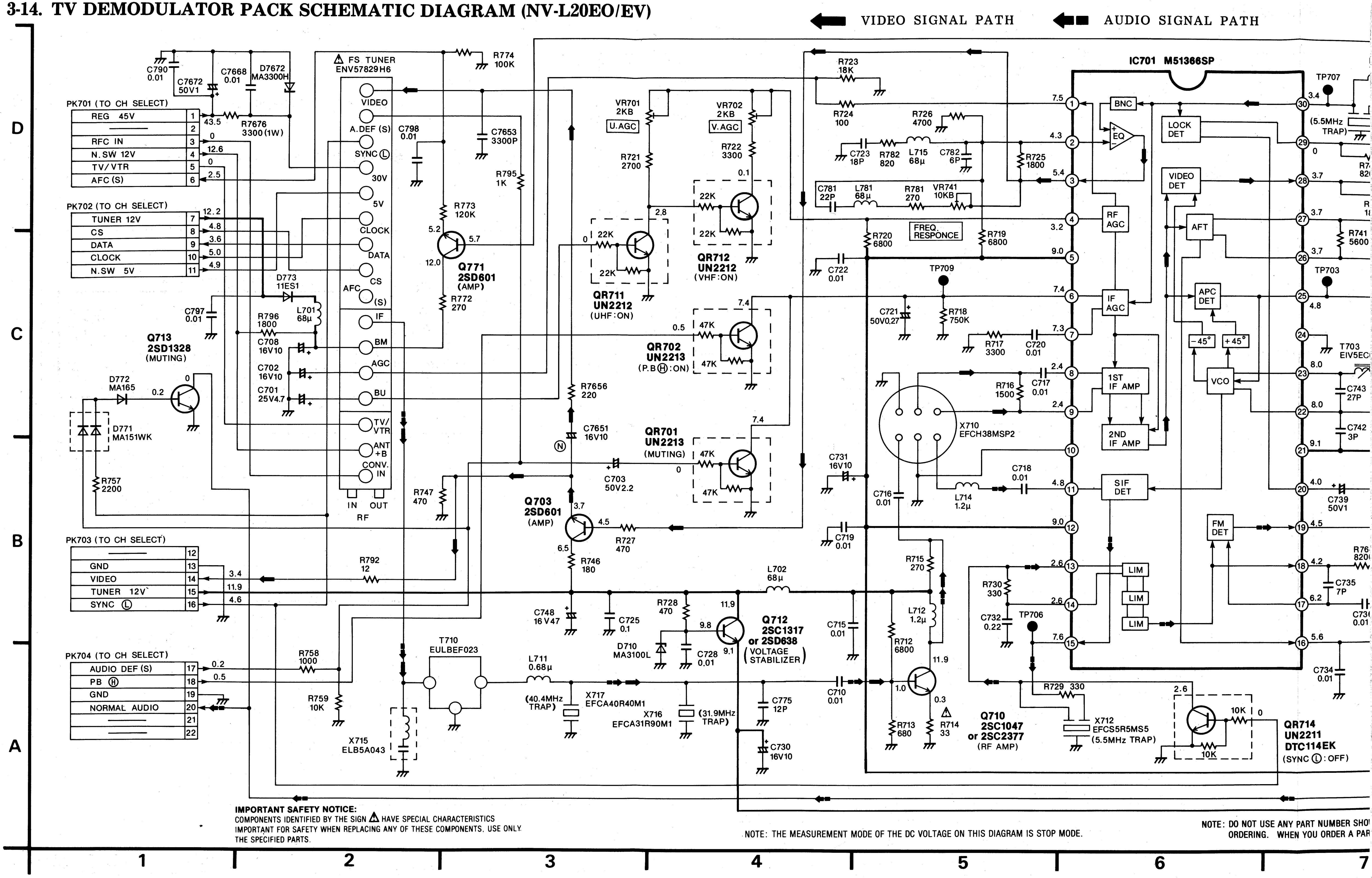
TV DEMODULATOR PACK C.B.A.			
Transistor		**Test Point**	
Q703	B-4	TP703	C-3
Q710	A-3	TP704	C-2
Q712	C-3	TP706	B-1
Q713	B-1	TP707	B-3
Q771	B-5	TP709	B-3
Transistor & Resistor		**Adjustment**	
QR701	C-2	T703	B-2
QR702	C-2	T704	C-2
QR711	B-5	T710	A-3
QR712	B-4	T711	C-1
QR714	A-1	VR701	B-4
Integrated Circuit		VR702	B-4
		VR741	B-3
IC701	B-2	VR751	B-1

ADDRESS INFORMATION


C
B
A
1
2
3
4
5
6
7
8
22
17
16
12
11
7
6
1
D711
QR702
QR701
R795
R757
R759
D772
T711
SIF
C703
TP704
TP703
T704
AFC
T703
VCO
R743
C744
R740
C741
L718
C730
D710
C728
C748
R792
Q712
E C B
R728
C725
R746
C7651
Q713
C737
R763
C738
C739
C743
C745
R744
C742
C746
R741
IC701
X711
TP707
L719
L716
TP709
C721
L717
L781
R727
Q703
R720
C760
R739
C749
C735
R745
C727
R719
C781
R781
VR702
V.AGC
R747
R764
C740
R750
C731
C723
L715
R725
VR751
N.AUDIO
C734
C722
R718
R737
VR741
V.FREQ
C782
R782
R724
R726
X717
R721
QR712
R722
R7656
QR711
R773
R774
Q771
R738
R772
R729
TP706
R730
C719
C720
R717
C715
X712
C732
C718
C717
R716
X710
L714
C716
L712
L702
R712
C710
X716
C775
R715
Q710
L711
T710
X715
VR701
U.AGC
R723
C7668
C7653
C708
C707
C702
C701
D7672
R7676
C7672
R713
R714
QR714
D773
L701
TUNER
C797
C798
R796
C790

Back Page:
CHANNEL SELECT Section

3-14. TV DEMODULATOR PACK SCHEMATIC DIAGRAM (NV-L20EO/EV)

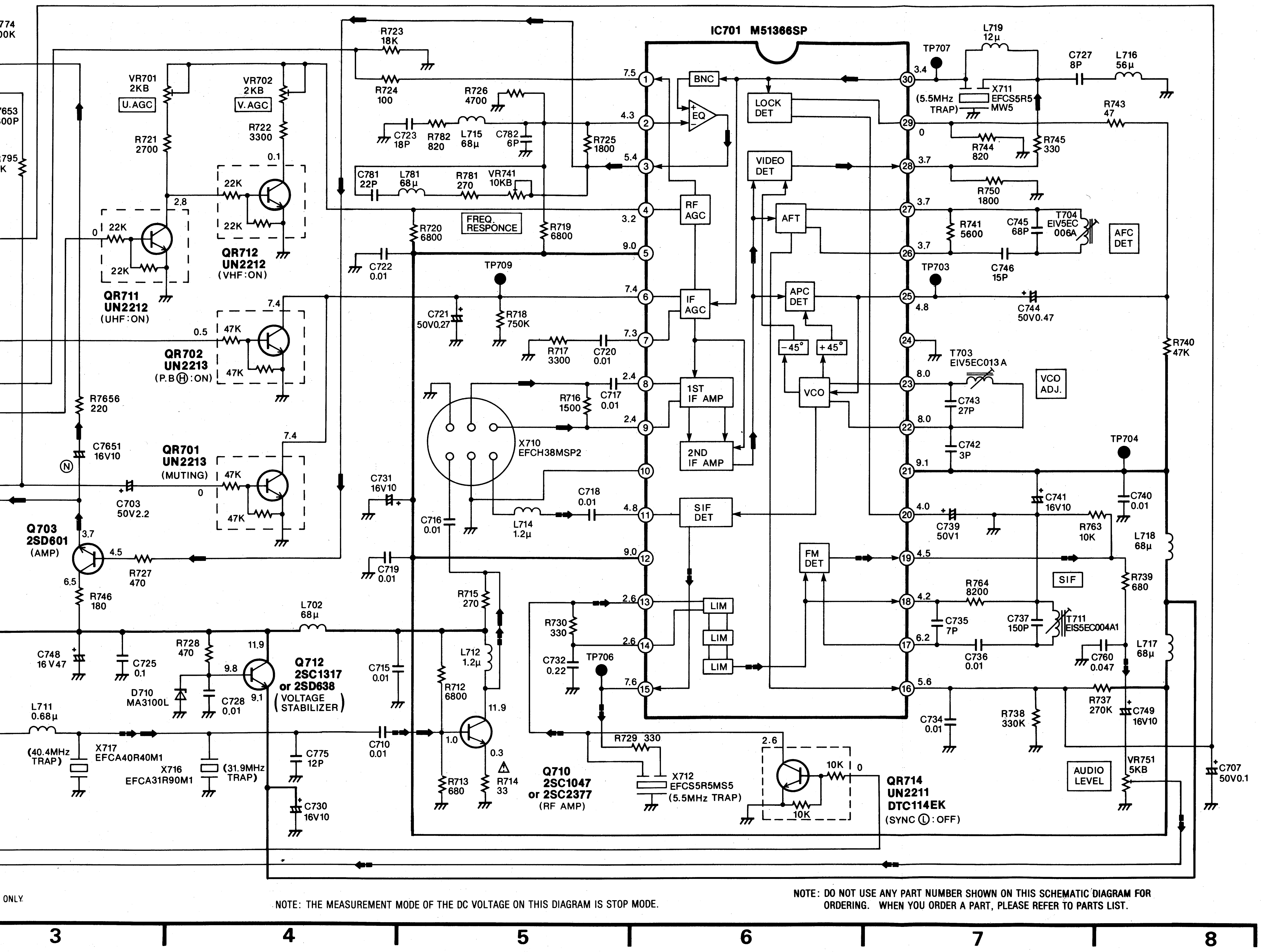

VIDEO SIGNAL PATH
AUDIO SIGNAL PATH
PK701 (TO CH SELECT)
REG 45V
RFC IN
N.SW 12V
TV/VTR
AFC (S)
PK702 (TO CH SELECT)
TUNER 12V
CS
DATA
CLOCK
N.SW 5V
PK703 (TO CH SELECT)
GND
VIDEO
TUNER 12V
SYNC Ⓛ
PK704 (TO CH SELECT)
AUDIO DEF (S)
PB Ⓗ
GND
NORMAL AUDIO
C790 0.01
C7672 50V1
C7668 0.01
D7672 MA3300H
R7676 3300 (1W)
FS TUNER ENV57829H6
VIDEO
A.DEF (S)
SYNC Ⓛ
30V
5V
CLOCK
DATA
CS
AFC (S)
IF
BM
AGC
BU
TV/VTR
ANT +B
CONV. IN
IN OUT RF
C798 0.01
C7653 3300P
R774 100K
R795 1K
R773 120K
Q771 2SD601 (AMP)
R772 270
D773 11ES1
L701 68µ
R796 1800
C708 16V10
C702 16V10
C701 25V4.7
C797 0.01
Q713 2SD1328 (MUTING)
D772 MA165
D771 MA151WK
R757 2200
R792 12
R758 1000
R759 10K
R747 470
T710 EULBEF023
X715 ELB5A043
VR701 2KB
U.AGC
VR702 2KB
V.AGC
R721 2700
R722 3300
QR711 UN2212 (UHF:ON)
QR712 UN2212 (VHF:ON)
QR702 UN2213 (P.B Ⓗ:ON)
QR701 UN2213 (MUTING)
R7656 220
C7651 16V10
C703 50V2.2
Q703 2SD601 (AMP)
R727 470
R746 180
C748 16V47
C725 0.1
R728 470
D710 MA3100L
C728 0.01
Q712 2SC1317 or 2SD638 (VOLTAGE STABILIZER)
L702 68µ
L711 0.68µ
(40.4MHz TRAP)
X717 EFCA40R40M1
X716 EFCA31R90M1
(31.9MHz TRAP)
C775 12P
C730 16V10
C715 0.01
C710 0.01
R723 18K
R724 100
R726 4700
C723 18P
R782 820
L715 68µ
C782 6P
R725 1800
C781 22P
L781 68µ
R781 270
VR741 10KB
FREQ. RESPONCE
R720 6800
R719 6800
C722 0.01
TP709
C721 50V0.27
R718 750K
R717 3300
C720 0.01
R716 1500
C717 0.01
X710 EFCH38MSP2
C731 16V10
C716 0.01
L714 1.2µ
C718 0.01
C719 0.01
R715 270
L712 1.2µ
R712 6800
R713 680
R714 33
Q710 2SC1047 or 2SC2377 (RF AMP)
R730 330
C732 0.22
TP706
R729 330
X712 EFCS5R5MS5 (5.5MHz TRAP)
QR714 UN2211 DTC114EK (SYNC Ⓛ:OFF)
IC701 M51366SP
BNC
EQ
LOCK DET
VIDEO DET
RF AGC
AFT
IF AGC
APC DET
-45°
+45°
VCO
1ST IF AMP
2ND IF AMP
SIF DET
FM DET
LIM
TP707
(5.5MHz TRAP)
R741 5600
TP703
T703 EIV5EC
C743 27P
C742 3P
C739 50V1
C735 7P
C734 0.01
D
C
B
A
1
2
3
4
5
6
7

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS
IMPORTANT FOR SAFETY WHEN REPLACING ANY OF THESE COMPONENTS. USE ONLY
THE SPECIFIED PARTS.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE: DO NOT USE ANY PART NUMBER SHO
ORDERING. WHEN YOU ORDER A PAR

VIDEO SIGNAL PATH   AUDIO SIGNAL PATH


IC701 M51366SP
BNC
EQ
LOCK DET
VIDEO DET
RF AGC
AFT
IF AGC
APC DET
-45°
+45°
VCO
1ST IF AMP
2ND IF AMP
SIF DET
FM DET
LIM
LIM
LIM
FREQ. RESPONCE
AFC DET
VCO ADJ.
SIF
AUDIO LEVEL
TP707
TP709
TP703
TP704
TP706
VR701 2KB
U.AGC
VR702 2KB
V.AGC
R721 2700
R722 3300
R723 18K
R724 100
R726 4700
C723 18P
R782 820
L715 68μ
C782 6P
R725 1800
C781 22P
L781 68μ
R781 270
VR741 10KB
R720 6800
R719 6800
C722 0.01
C721 50V0.27
R718 750K
R717 3300
C720 0.01
R716 1500
C717 0.01
X710 EFCH38MSP2
C731 16V10
C716 0.01
L714 1.2μ
C718 0.01
C719 0.01
R715 270
L712 1.2μ
R712 6800
R713 680
R714 33
R730 330
C732 0.22
R729 330
X712 EFCS5R5MS5 (5.5MHz TRAP)
Q710 2SC1047 or 2SC2377 (RF AMP)
QR714 UN2211 DTC114EK (SYNC Ⓛ:OFF)
10K
10K
QR711 UN2212 (UHF:ON)
QR712 UN2212 (VHF:ON)
QR702 UN2213 (P.BⒽ:ON)
QR701 UN2213 (MUTING)
22K
47K
R7656 220
C7651 16V10
C703 50V2.2
Q703 2SD601 (AMP)
R727 470
R746 180
L702 68μ
C748 16V47
C725 0.1
R728 470
D710 MA3100L
C728 0.01
Q712 2SC1317 or 2SD638 (VOLTAGE STABILIZER)
C715 0.01
L711 0.68μ
X717 EFCA40R40M1 (40.4MHz TRAP)
X716 EFCA31R90M1 (31.9MHz TRAP)
C775 12P
C730 16V10
C710 0.01
L719 12μ
C727 8P
L716 56μ
X711 EFCS5R5MW5 (5.5MHz TRAP)
R743 47
R744 820
R745 330
R750 1800
R741 5600
C745 68P
T704 EIV5EC006A
C746 15P
C744 50V0.47
R740 47K
T703 EIV5EC013A
C743 27P
C742 3P
C741 16V10
C740 0.01
C739 50V1
R763 10K
L718 68μ
R764 8200
C735 7P
C737 150P
T711 EIS5EC004A1
R739 680
C736 0.01
C760 0.047
L717 68μ
C734 0.01
R738 330K
R737 270K
C749 16V10
VR751 5KB
C707 50V0.1
R774
R653
R795
ONLY

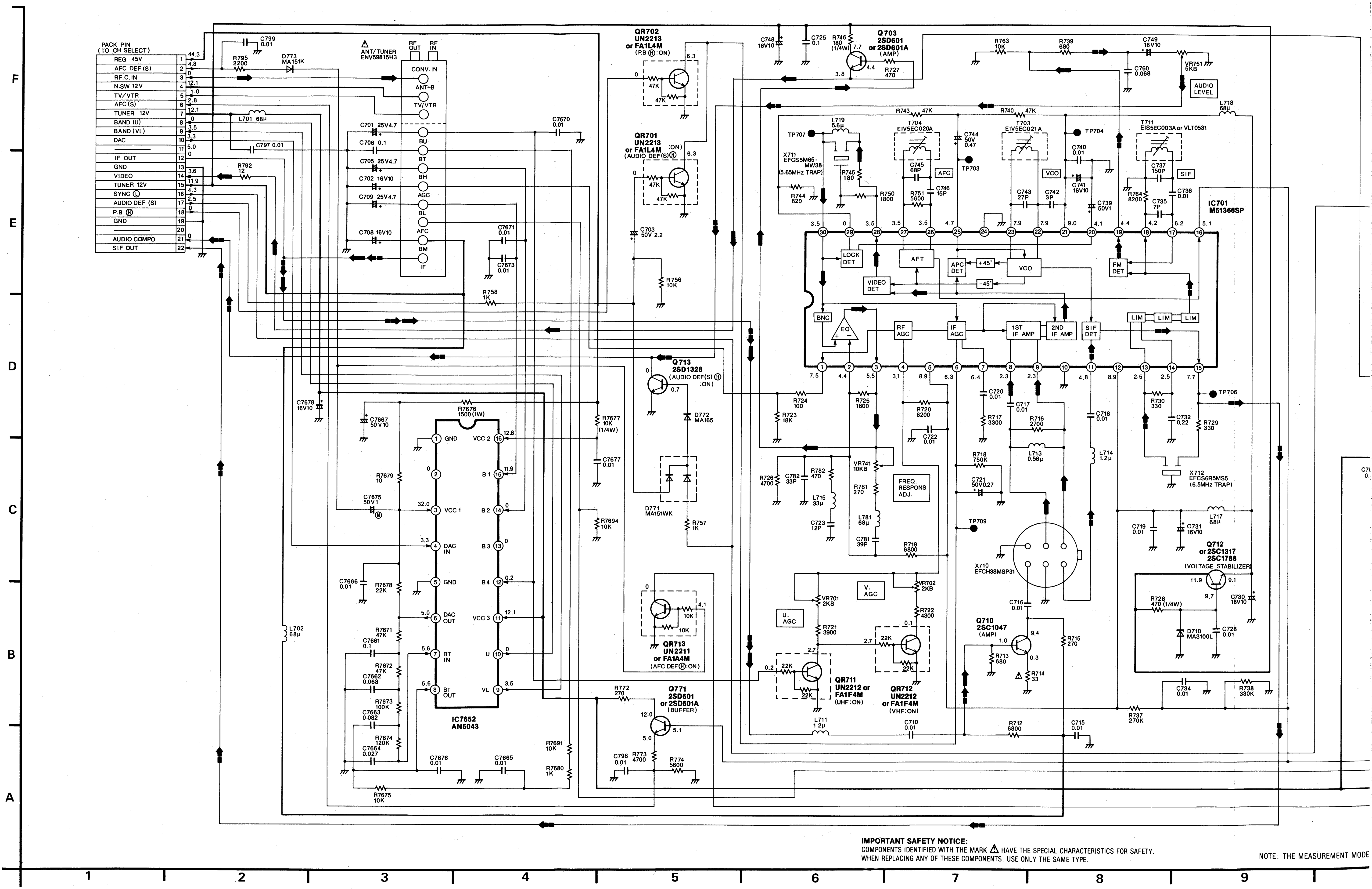
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3 4 5 6 7 8

Next Page:
TV DEMODULATOR PACK Section

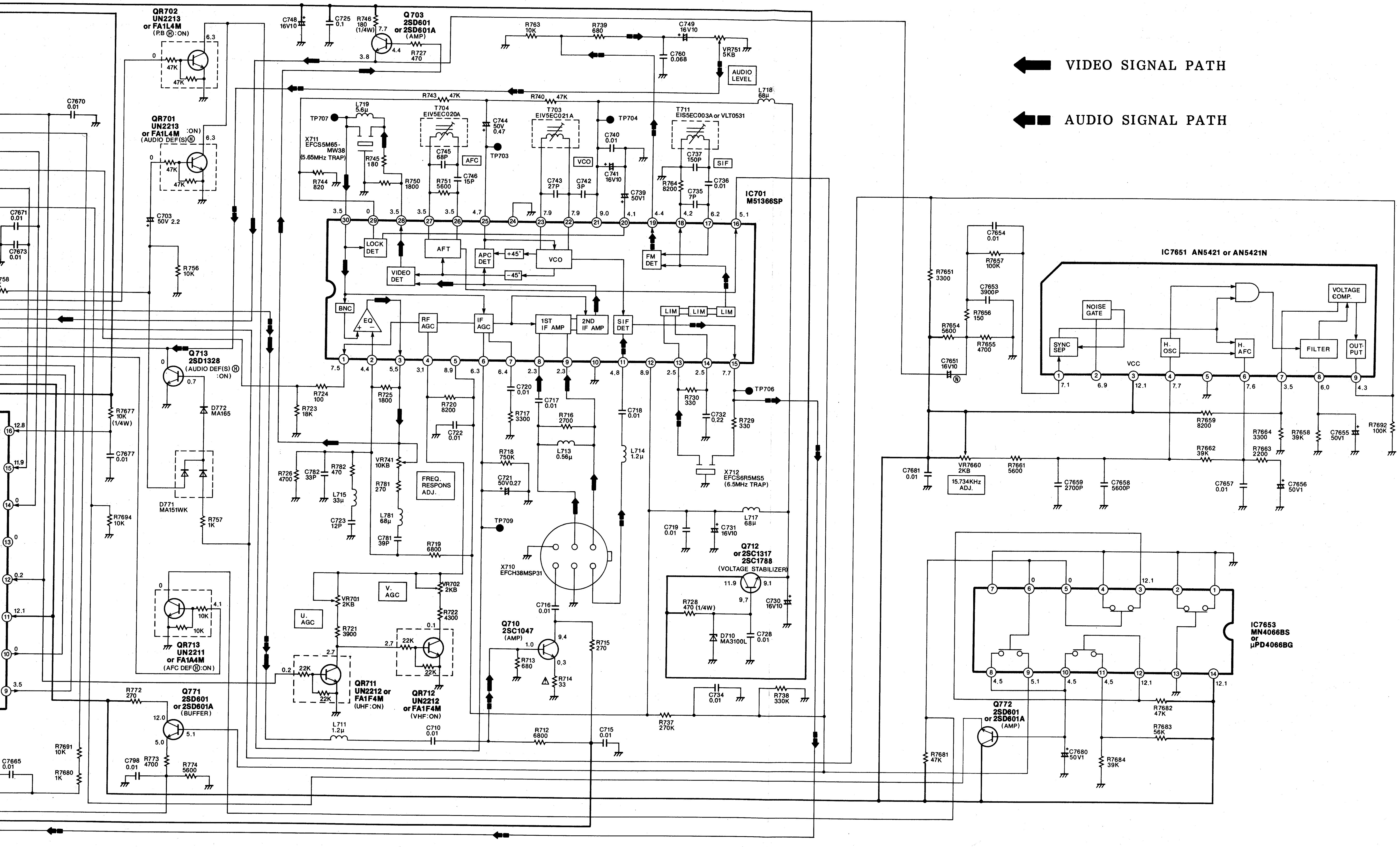
3-15. TV DEMODULATOR PACK SCHEMATIC DIAGRAM (NV-L20EE)


F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
PACK PIN (TO CH SELECT)
1 REG 45V 44.3
2 AFC DEF (S) 4.8
3 RF.C.IN 0
4 N.SW 12V 12.1
5 TV/VTR 1.0
6 AFC (S) 2.8
7 TUNER 12V 12.1
8 BAND (U) 0
9 BAND (VL) 3.5
10 DAC 3.3
11 5.0
12 IF OUT 0
13 GND
14 VIDEO 3.6
15 TUNER 12V 11.9
16 SYNC Ⓛ 4.3
17 AUDIO DEF (S) 2.5
18 P.B Ⓗ 0
19 GND
20
21 AUDIO COMPO 0
22 SIF OUT
C799 0.01
R795 2200
D773 MA151K
ANT/TUNER ENV59815H3
RF OUT
RF IN
CONV.IN
ANT+B
TV/VTR
BU
BT
BH
AGC
BL
AFC
BM
IF
C701 25V4.7
C706 0.1
C705 25V4.7
C702 16V10
C709 25V4.7
C708 16V10
L701 68µ
C797 0.01
R792 12
C7670 0.01
C7671 0.01
C7673 0.01
R758 1K
C7678 16V10
C7667 50V10
R7676 1500 (1W)
R7679 10
C7675 50V1
C7666 0.01
R7678 22K
R7671 47K
C7661 0.1
R7672 47K
C7662 0.068
R7673 100K
C7663 0.082
R7674 120K
C7664 0.027
C7676 0.01
C7665 0.01
R7675 10K
L702 68µ
IC7652 AN5043
1 GND
2
3 VCC 1
4 DAC IN
5 GND
6 DAC OUT
7 BT IN
8 BT OUT
16 VCC 2
15 B 1
14 B 2
13 B 3
12 B4
11 VCC 3
10 U
9 VL
R7677 10K (1/4W)
C7677 0.01
R7694 10K
R7691 10K
R7680 1K
QR702 UN2213 or FA1L4M (P.B Ⓗ:ON)
QR701 UN2213 or FA1L4M (AUDIO DEF(S)Ⓗ:ON)
47K
C703 50V 2.2
R756 10K
Q713 2SD1328 (AUDIO DEF(S) Ⓗ:ON)
D772 MA165
D771 MA151WK
R757 1K
QR713 UN2211 or FA1A4M (AFC DEF Ⓗ:ON)
10K
Q771 2SD601 or 2SD601A (BUFFER)
R772 270
C798 0.01
R773 4700
R774 5600
C748 16V10
C725 0.1
R746 180 (1/4W)
Q703 2SD601 or 2SD601A (AMP)
R727 470
R763 10K
R739 680
C749 16V10
C760 0.068
VR751 5KB
AUDIO LEVEL
L718 68µ
R743 47K
R740 47K
TP707
L719 5.6µ
X711 EFCS5M65-MW38 (5.65MHz TRAP)
R745 180
R744 820
R750 1800
T704 EIV5EC020A
C745 68P
AFC
R751 5600
C746 15P
C744 50V 0.47
TP703
T703 EIV5EC021A
TP704
C740 0.01
VCO
C741 16V10
C743 27P
C742 3P
C739 50V1
T711 EIS5EC003A or VLT0531
C737 150P
SIF
R764 8200
C735 7P
C736 0.01
IC701 M51366SP
LOCK DET
AFT
APC DET
+45°
-45°
VIDEO DET
FM DET
BNC
EQ
RF AGC
IF AGC
1ST IF AMP
2ND IF AMP
SIF DET
LIM
R724 100
R723 18K
R725 1800
R720 8200
C722 0.01
C720 0.01
R717 3300
C717 0.01
R716 2700
L713 0.56µ
C718 0.01
L714 1.2µ
TP706
R730 330
C732 0.22
R729 330
X712 EFCS6R5MS5 (6.5MHz TRAP)
R726 4700
C782 33P
R782 470
L715 33µ
VR741 10KB
R781 270
L781 68µ
C781 39P
C723 12P
FREQ. RESPONS ADJ.
R718 750K
C721 50V0.27
R719 6800
TP709
X710 EFCH38MSP31
C719 0.01
C731 16V10
L717 68µ
Q712 2SC1317 or 2SC1788 (VOLTAGE STABILIZER)
R728 470 (1/4W)
D710 MA3100L
C728 0.01
C730 16V10
VR701 2KB
V. AGC
VR702 2KB
R722 4300
U. AGC
R721 3900
22K
QR711 UN2212 or FA1F4M (UHF:ON)
QR712 UN2212 or FA1F4M (VHF:ON)
L711 1.2µ
C710 0.01
C716 0.01
Q710 2SC1047 (AMP)
R713 680
R714 33
R715 270
R712 6800
C715 0.01
R737 270K
C734 0.01
R738 330K

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

NOTE: THE MEASUREMENT MODE

RAM (NV-L20EE)


QR702 UN2213 or FA1L4M (P.B Ⓗ:ON)
QR701 UN2213 or FA1L4M :ON) (AUDIO DEF(S)Ⓗ
Q703 2SD601 or 2SD601A (AMP)
C748 16V10
C725 0.1
R746 180 (1/4W)
R727 470
R763 10K
R739 680
C749 16V10
VR751 5KB
C760 0.068
AUDIO LEVEL
L718 68µ
R743 47K
R740 47K
L719 5.6µ
TP707
T704 EIV5EC020A
C744 50V 0.47
T703 EIV5EC021A
TP704
T711 EIS5EC003A or VLT0531
X711 EFCS5M65-MW38 (5.65MHz TRAP)
C745 68P
AFC
TP703
C740 0.01
VCO
C737 150P
SIF
R745 180
R744 820
R750 1800
R751 5600
C746 15P
C743 27P
C742 3P
C741 16V10
C739 50V1
R764 8200
C735 7P
C736 0.01
IC701 M51366SP
LOCK DET
AFT
APC DET
+45°
-45°
VCO
FM DET
VIDEO DET
BNC
EQ
RF AGC
IF AGC
1ST IF AMP
2ND IF AMP
SIF DET
LIM
C7670 0.01
C7671 0.01
C7673 0.01
C703 50V 2.2
R756 10K
Q713 2SD1328 (AUDIO DEF(S)Ⓗ :ON)
D772 MA165
R7677 10K (1/4W)
C7677 0.01
D771 MA151WK
R757 1K
R7694 10K
R724 100
R723 18K
R725 1800
R720 8200
C722 0.01
C720 0.01
C717 0.01
R717 3300
R716 2700
C718 0.01
L714 1.2µ
R730 330
C732 0.22
R729 330
TP706
X712 EFCS6R5MS5 (6.5MHz TRAP)
R726 4700
C782 33P
R782 470
VR741 10KB
R781 270
L715 33µ
FREQ. RESPONS ADJ.
L781 68µ
C723 12P
C781 39P
R719 6800
R718 750K
C721 50V0.27
L713 0.56µ
TP709
X710 EFCH38MSP31
C719 0.01
C731 16V10
L717 68µ
Q712 or 2SC1317 2SC1788 (VOLTAGE STABILIZER)
R728 470 (1/4W)
C730 16V10
D710 MA3100L
C728 0.01
QR713 UN2211 or FA1A4M (AFC DEF Ⓗ:ON)
V. AGC
U. AGC
VR701 2KB
VR702 2KB
R722 4300
R721 3900
QR711 UN2212 or FA1F4M (UHF:ON)
QR712 UN2212 or FA1F4M (VHF:ON)
Q710 2SC1047 (AMP)
C716 0.01
R715 270
R713 680
R714 33
L711 1.2µ
C710 0.01
R712 6800
C715 0.01
C734 0.01
R738 330K
R737 270K
R772 270
Q771 2SD601 or 2SD601A (BUFFER)
R7691 10K
R7680 1K
C798 0.01
R773 4700
R774 5600
C7665 0.01
C7654 0.01
R7657 100K
R7651 3300
C7653 3900P
R7656 150
R7654 5600
R7655 4700
C7651 16V10
IC7651 AN5421 or AN5421N
NOISE GATE
VOLTAGE COMP.
SYNC SEP
H. OSC
H. AFC
FILTER
OUT-PUT
VCC
R7659 8200
R7664 3300
R7658 39K
C7655 50V1
R7692 100K
R7662 39K
R7663 2200
C7681 0.01
VR7660 2KB
15.734KHz ADJ.
R7661 5600
C7659 2700P
C7658 5600P
C7657 0.01
C7656 50V1
IC7653 MN4066BS or µPD4066BG
R7682 47K
R7683 56K
Q772 2SD601 or 2SD601A (AMP)
R7681 47K
C7680 50V1
R7684 39K
4
5
6
7
8
9
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11
12
13

VIDEO SIGNAL PATH

AUDIO SIGNAL PATH

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

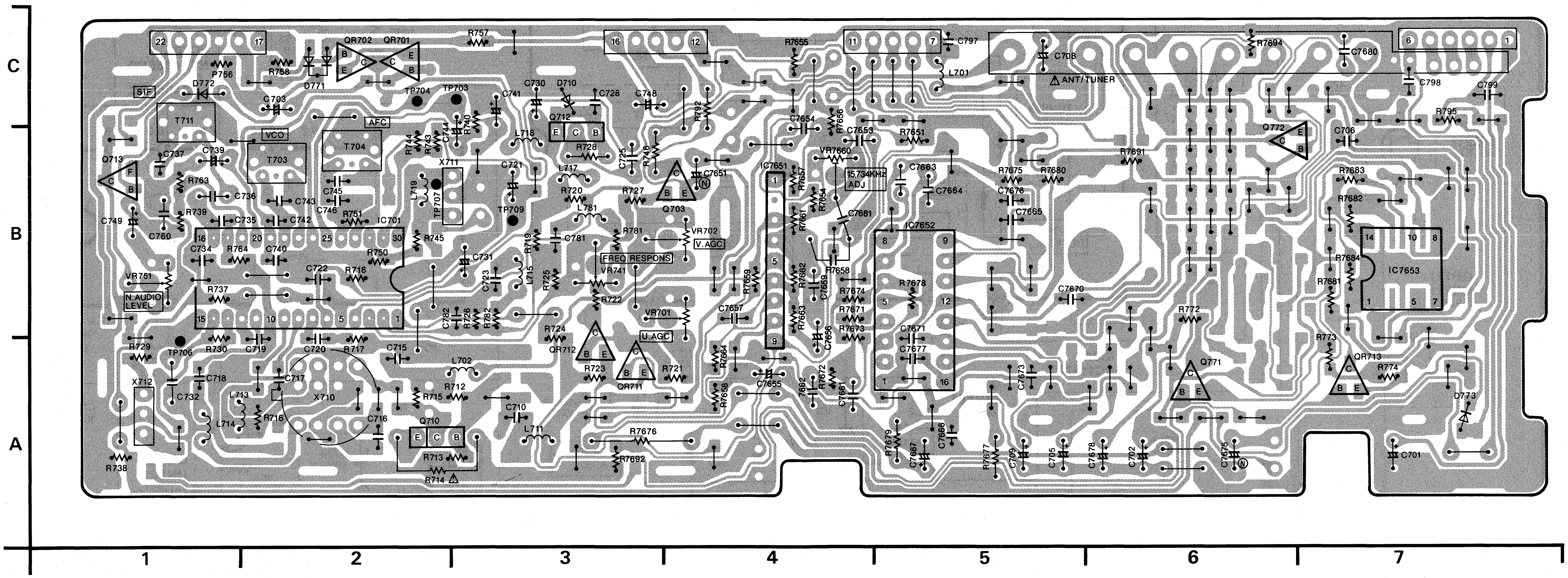
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

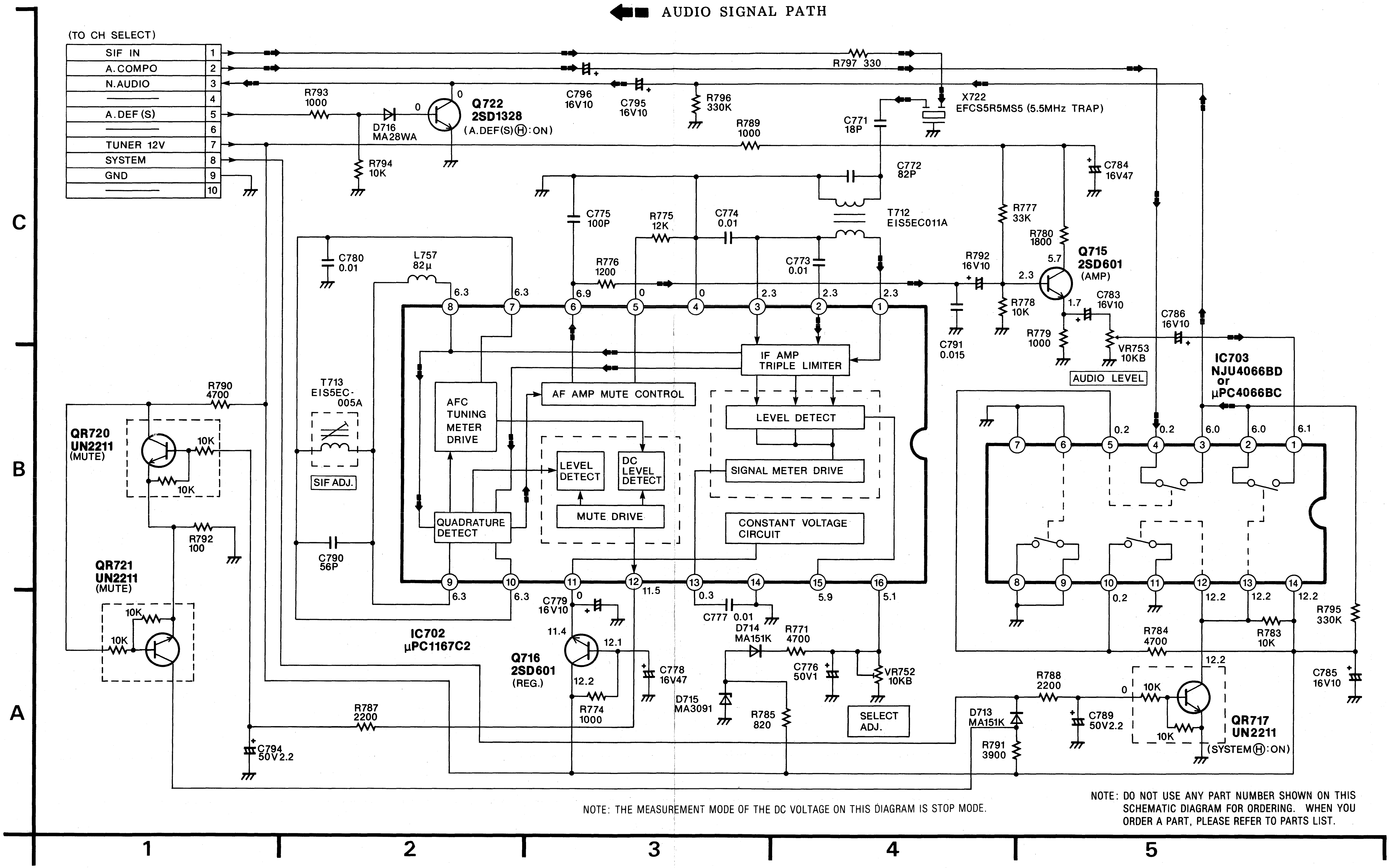
3-16. TV DEMODULATOR PACK C.B.A. (VEP07550F: NV-L20EE)

TV DEMODULATOR PACK C.B.A.			
Transistor		**Test Point**	
Q703	B-4	TP703	C-3
Q710	A-2	TP704	C-2
Q712	C-3	TP706	A-1
Q713	B-1	TP707	B-2
Q771	A-6	TP709	B-3
Q772	B-6	**Adjustment**	
Transistor & Resistor		T703	B-2
QR701	C-2	T704	B-2
QR702	C-2	T711	C-1
QR711	A-3	VR701	B-3
QR712	A-3	VR702	B-4
QR713	A-7	VR741	B-3
Integrated Circuit		VR751	B-1
IC701	B-2	VR7660	B-4
IC7651	B-4		
IC7652	B-5		
IC7653	B-7		

ADDRESS INFORMATION


C
B
A
1
2
3
4
5
6
7
22
17
16
12
11
7
6
1
S1F
T711
VCO
T703
T704
AFC
X711
TP707
TP709
TP703
TP704
TP706
QR702
QR701
D771
D772
P756
R758
R757
Q712
Q713
Q703
Q710
QR711
QR712
IC701
IC7651
IC7652
IC7653
Q771
Q772
QR713
VR751
N.AUDIO LEVEL
FREQ.RESPONS
VR741
V.AGC
VR702
VR701
U.AGC
VR7660
15734KHz ADJ
X712
X710
L701
L702
L711
L713
L714
L715
L717
L718
L719
L781
C708
ANT/TUNER
C797
C798
C799
C7680
R7694
R7655
R7651
R7691
R795
C706
R7683
R7682
R7684
R7681
R772
R773
R774
D773
C701
C702
C705
C709
C7670
C7671
C7677
C7678
C7675
R7677
R7679
C7667
C7668
R7676
R7692
R713
R714
R712
R715
R716
C716
C717
C718
C732
R738
R729
R730
C719
C720
R717
C715
C710
R723
R721
R724
R722
R781
C781
R719
R725
C723
C731
R745
R750
R718
C722
R737
C734
R764
C740
R739
C735
C742
C743
C746
C745
R751
C736
R763
C737
C739
C749
C760
C703
R744
R743
C744
R740
C741
C730
D710
C728
C748
R728
C721
R720
R727
C725
R746
C7651
R792
C7654
R7656
C7653
C7663
C7664
C7676
C7665
R7675
R7680
C7681
R7657
R7661
R7654
R7662
R7663
C7659
R7658
R7659
C7657
R7664
R7656
C7655
C7656
R7672
C7661
R7662
R7674
R7671
R7673
R7678
C7673
C782
R726
R782
R7652
R7666

3-17. MULTI DECODER PACK SCHEMATIC DIAGRAM


AUDIO SIGNAL PATH
(TO CH SELECT)
SIF IN 1
A.COMPO 2
N.AUDIO 3
4
A.DEF (S) 5
6
TUNER 12V 7
SYSTEM 8
GND 9
10
R793 1000
D716 MA28WA
Q722 2SD1328
(A.DEF(S)Ⓗ:ON)
R794 10K
C796 16V10
C795 16V10
R796 330K
R797 330
R789 1000
C771 18P
X722 EFCS5R5MS5 (5.5MHz TRAP)
C772 82P
C784 16V47
T712 EIS5EC011A
C775 100P
R775 12K
C774 0.01
C780 0.01
L757 82μ
R776 1200
C773 0.01
R777 33K
R780 1800
Q715 2SD601 (AMP)
R792 16V10
R778 10K
C783 16V10
C791 0.015
R779 1000
VR753 10KB
AUDIO LEVEL
C786 16V10
IC703 NJU4066BD or μPC4066BC
IF AMP TRIPLE LIMITER
AF AMP MUTE CONTROL
AFC TUNING METER DRIVE
LEVEL DETECT
DC LEVEL DETECT
MUTE DRIVE
SIGNAL METER DRIVE
CONSTANT VOLTAGE CIRCUIT
QUADRATURE DETECT
T713 EIS5EC-005A
SIF ADJ.
C790 56P
R790 4700
QR720 UN2211 (MUTE)
R792 100
QR721 UN2211 (MUTE)
IC702 μPC1167C2
C779 16V10
Q716 2SD601 (REG.)
C778 16V47
R774 1000
R787 2200
C794 50V2.2
C777 0.01
D714 MA151K
R771 4700
C776 50V1
VR752 10KB
D715 MA3091
R785 820
SELECT ADJ.
R784 4700
R783 10K
R795 330K
C785 16V10
R788 2200
C789 50V2.2
D713 MA151K
R791 3900
QR717 UN2211
(SYSTEMⒽ:ON)
C
B
A
1
2
3
4
5

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

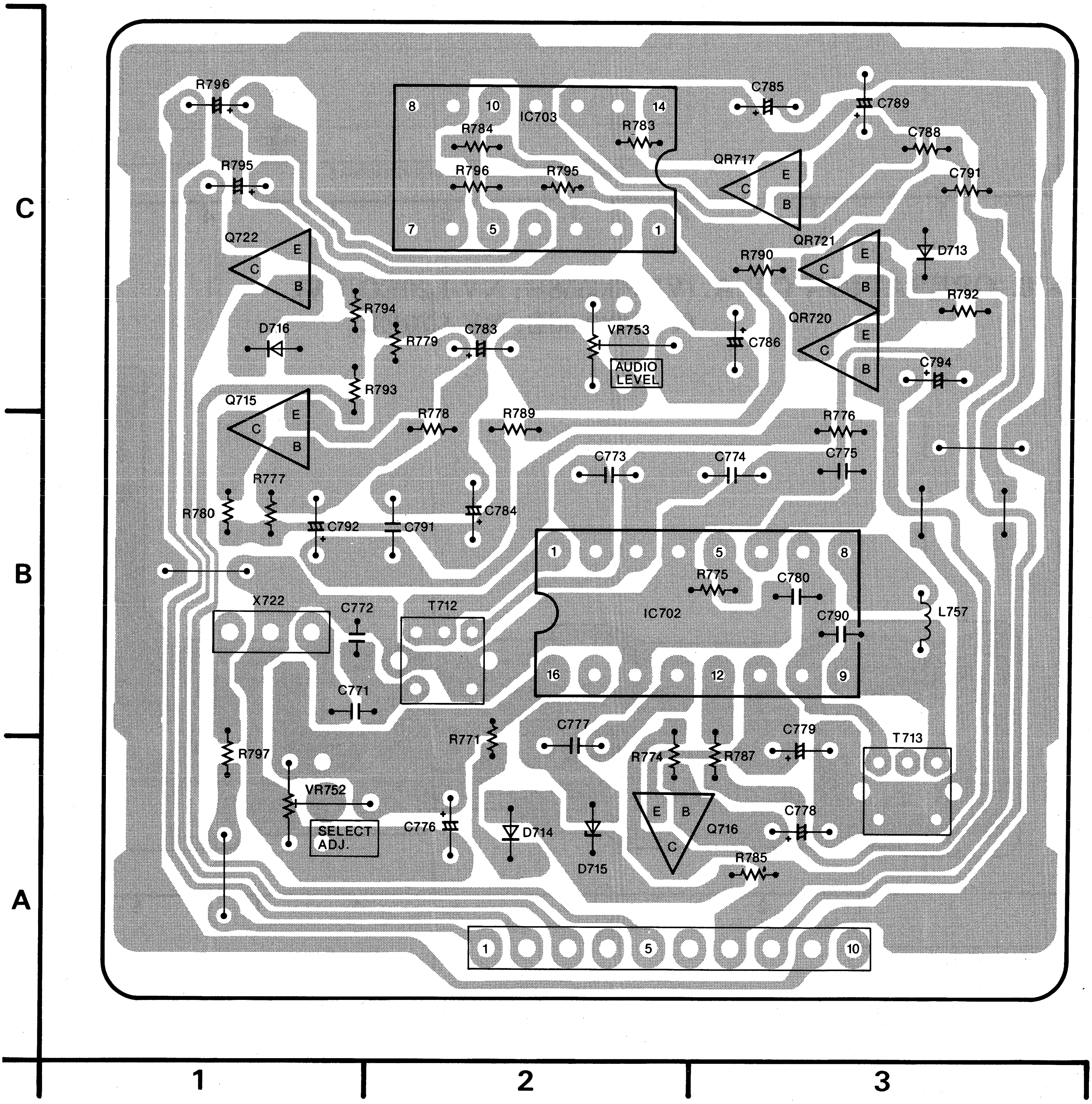
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

Back Page:
TV DEMODULATOR PACK Section

3-18. MULTI DECODER PACK C.B.A. (VEP07554A: NV-L20EE)

MULTI DECODER PACK C.B.A.			
Transistor		**Integrated Circuit**	
Q715	C-1	IC702	B-2
Q716	A-3	IC703	C-2
Q722	C-1	**Adjustment**	
Transistor & Resistor		T712	B-2
QR717	C-3	T713	A-3
QR720	C-3	VR752	A-1
QR721	C-3	VR753	C-2

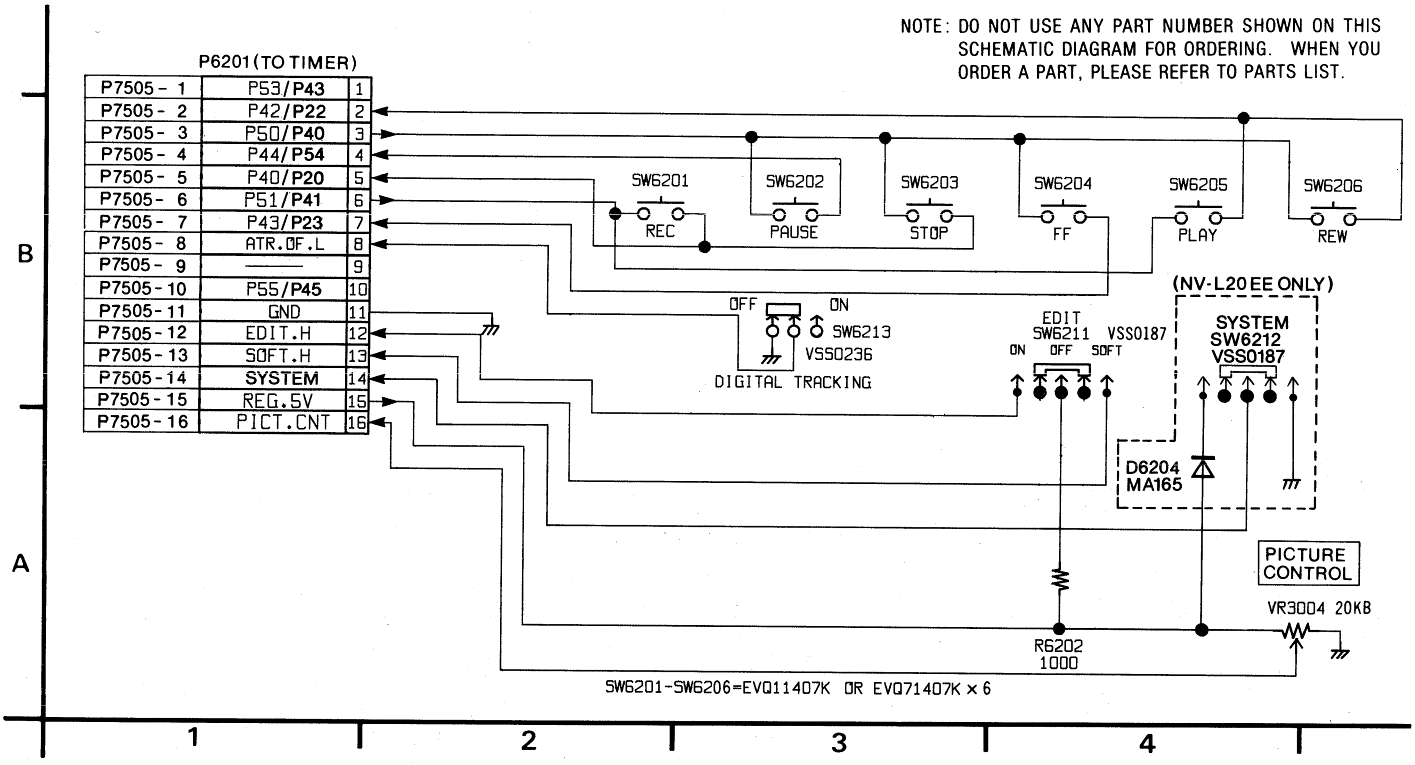
ADDRESS INFORMATION



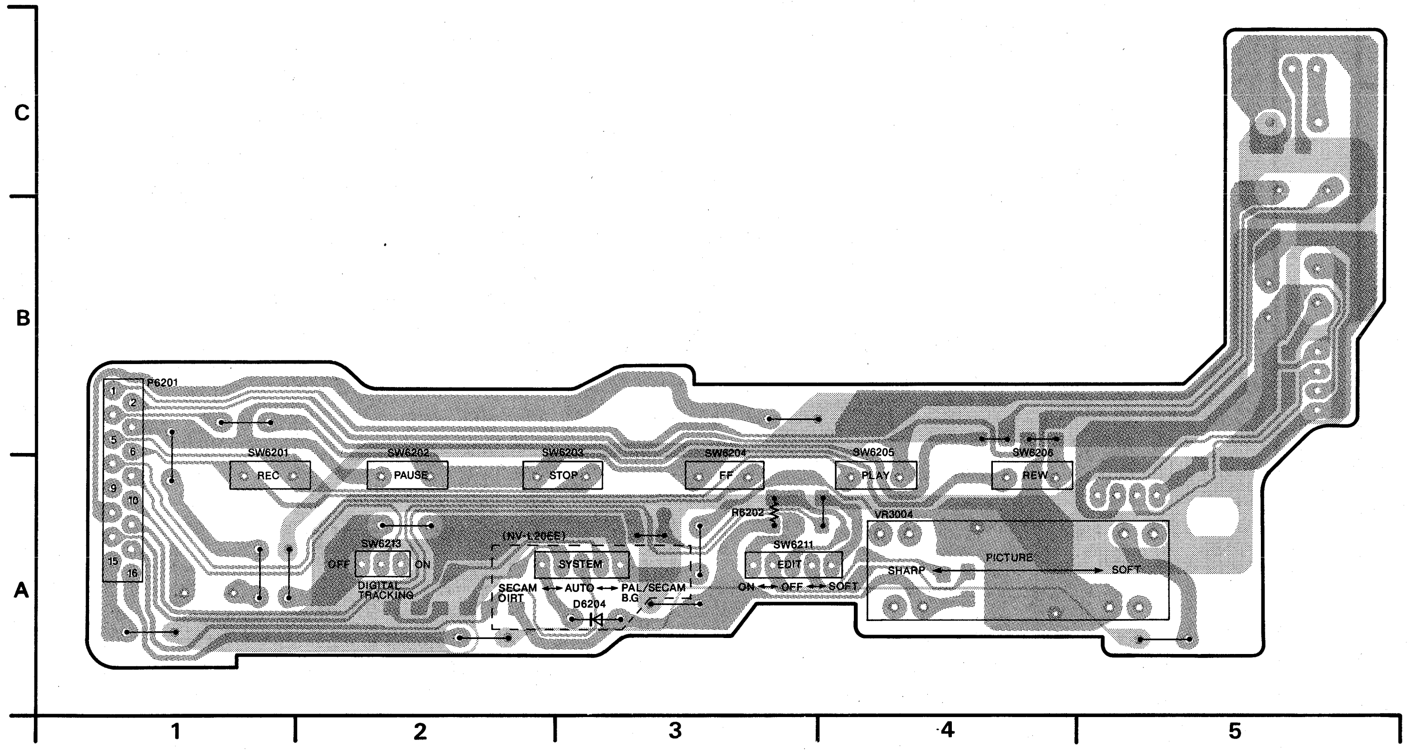
C
B
A
1
2
3
R796
R795
Q722
D716
Q715
R794
R779
R793
R777
R780
C792
C791
C783
C784
R778
R789
IC703
8
10
14
7
5
1
R784
R783
R796
R795
VR753
AUDIO LEVEL
C785
C789
C788
QR717
C791
QR721
R790
D713
QR720
R792
C786
C794
R776
C773
C774
C775
E
B
C
X722
C772
T712
C771
IC702
1
5
8
16
12
9
R775
C780
C790
L757
R797
VR752
SELECT ADJ.
C776
R771
C777
D714
D715
R774
R787
C779
Q716
C778
R785
T713
1
5
10

3-19. OPERATION SCHEMATIC DIAGRAM

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.


P6201 (TO TIMER)
P7505 - 1 P53/P43 1
P7505 - 2 P42/P22 2
P7505 - 3 P50/P40 3
P7505 - 4 P44/P54 4
P7505 - 5 P40/P20 5
P7505 - 6 P51/P41 6
P7505 - 7 P43/P23 7
P7505 - 8 ATR.OF.L 8
P7505 - 9 9
P7505 - 10 P55/P45 10
P7505 - 11 GND 11
P7505 - 12 EDIT.H 12
P7505 - 13 SOFT.H 13
P7505 - 14 SYSTEM 14
P7505 - 15 REG.5V 15
P7505 - 16 PICT.CNT 16
SW6201
REC
SW6202
PAUSE
SW6203
STOP
SW6204
FF
SW6205
PLAY
SW6206
REW
OFF
ON
SW6213
VSS0236
DIGITAL TRACKING
EDIT
SW6211 VSS0187
ON OFF SOFT
(NV-L20EE ONLY)
SYSTEM
SW6212
VSS0187
D6204
MA165
PICTURE CONTROL
VR3004 20KB
R6202
1000
SW6201-SW6206=EVQ11407K OR EVQ71407K × 6
B
A
1
2
3
4

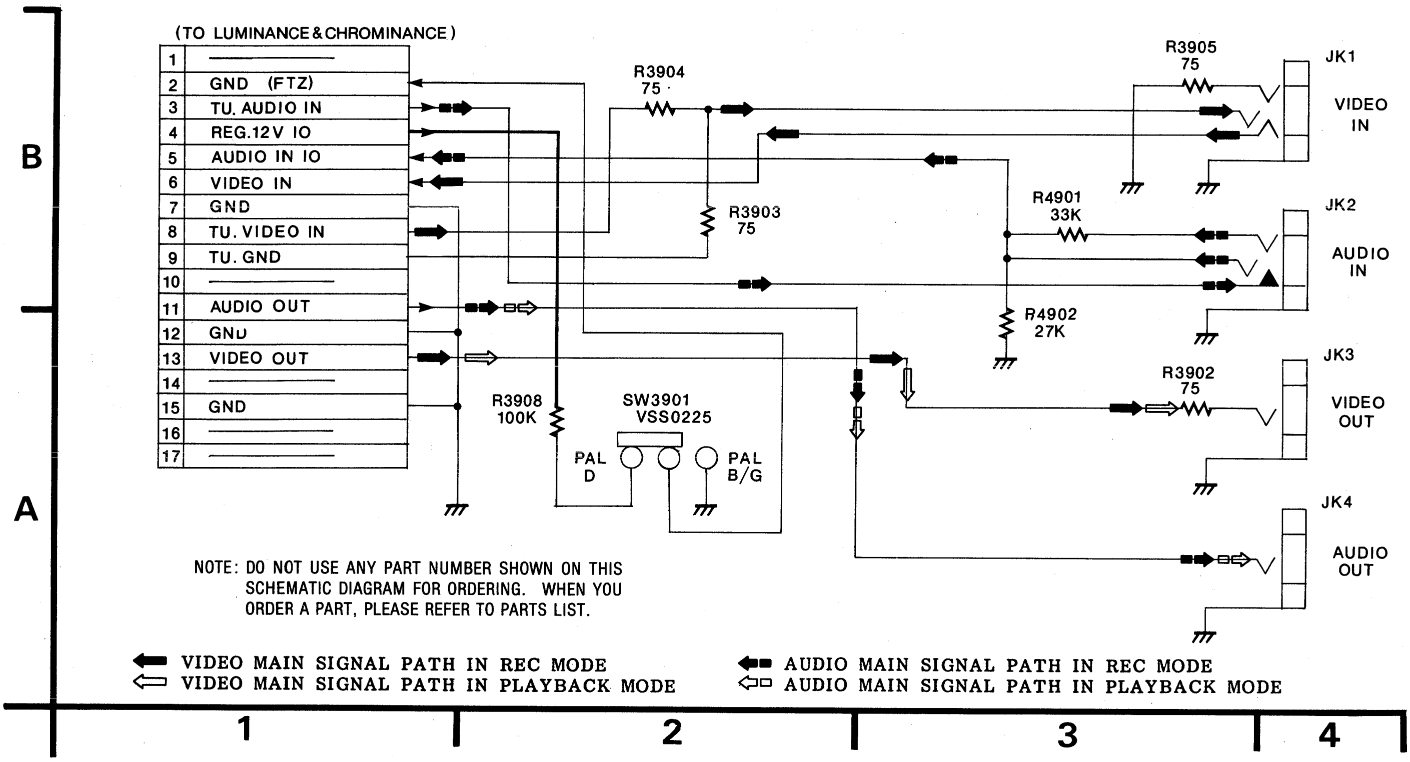
3-20. OPERATION C.B.A. (VEP06558B: NV-L20EO/EV)
(VEP06558E: NV-L20EE)


C
B
A
P6201
SW6201
REC
SW6202
PAUSE
SW6203
STOP
SW6204
FF
SW6205
PLAY
SW6206
REW
R6202
VR3004
SW6213
OFF
ON
DIGITAL TRACKING
(NV-L20EE)
SYSTEM
SECAM ←→ AUTO ←→ PAL/SECAM
OIRT
B.G
D6204
SW6211
EDIT
ON ←→ OFF ←→ SOFT
PICTURE
SHARP
SOFT
1
2
3
4
5

OPERATION C.B.A.	
Adjustment	
VR3004	A-4
Connector	
P6201	B-1

ADDRESS INFORMATION

3-21. INPUT/OUTPUT PACK SCHEMATIC DIAGRAM (NV-L20EE)

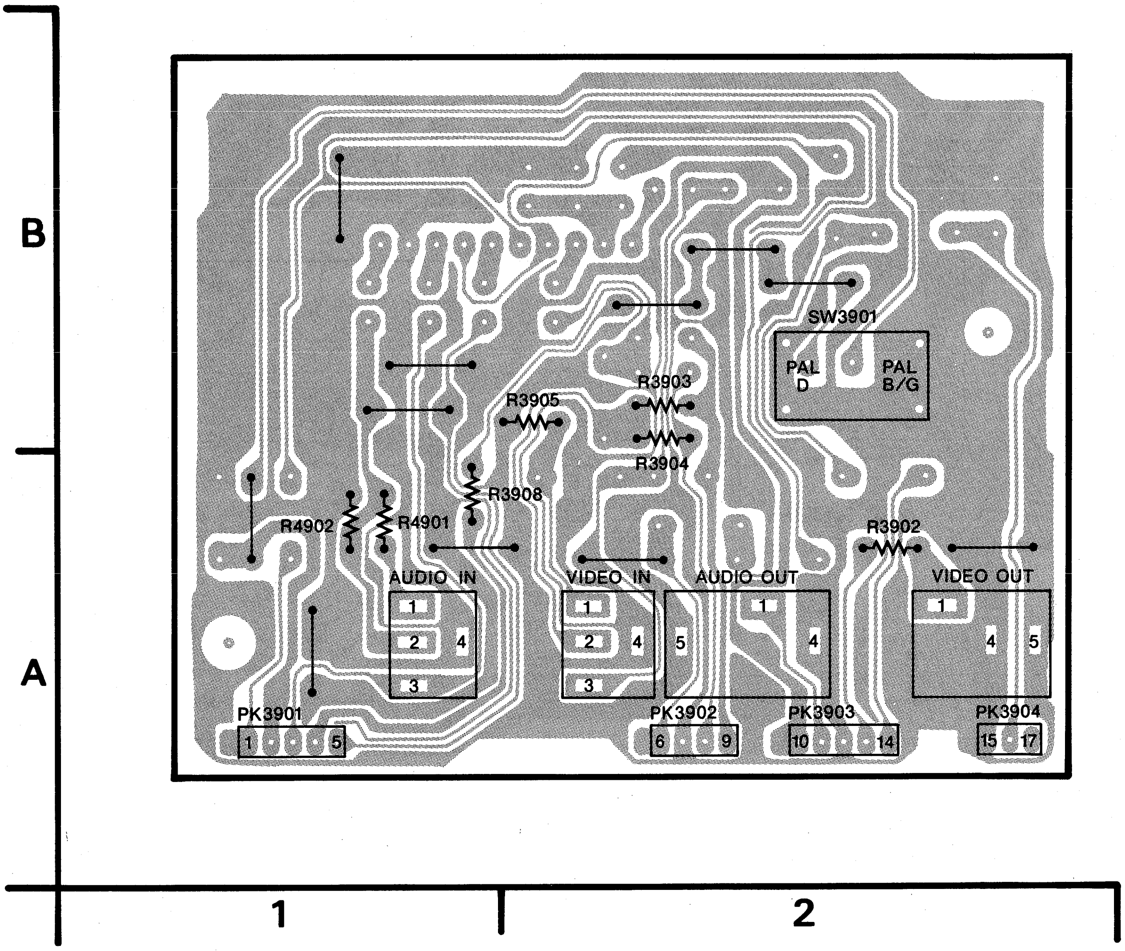

(TO LUMINANCE & CHROMINANCE)
1
2 GND (FTZ)
3 TU. AUDIO IN
4 REG.12V IO
5 AUDIO IN IO
6 VIDEO IN
7 GND
8 TU. VIDEO IN
9 TU. GND
10
11 AUDIO OUT
12 GND
13 VIDEO OUT
14
15 GND
16
17
R3904 75
R3903 75
R3905 75
R4901 33K
R4902 27K
R3902 75
R3908 100K
SW3901 VSS0225
PAL D
PAL B/G
JK1 VIDEO IN
JK2 AUDIO IN
JK3 VIDEO OUT
JK4 AUDIO OUT
B
A
1
2
3
4

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

⬅ VIDEO MAIN SIGNAL PATH IN REC MODE
⇦ VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE

⬅■ AUDIO MAIN SIGNAL PATH IN REC MODE
⇦□ AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE

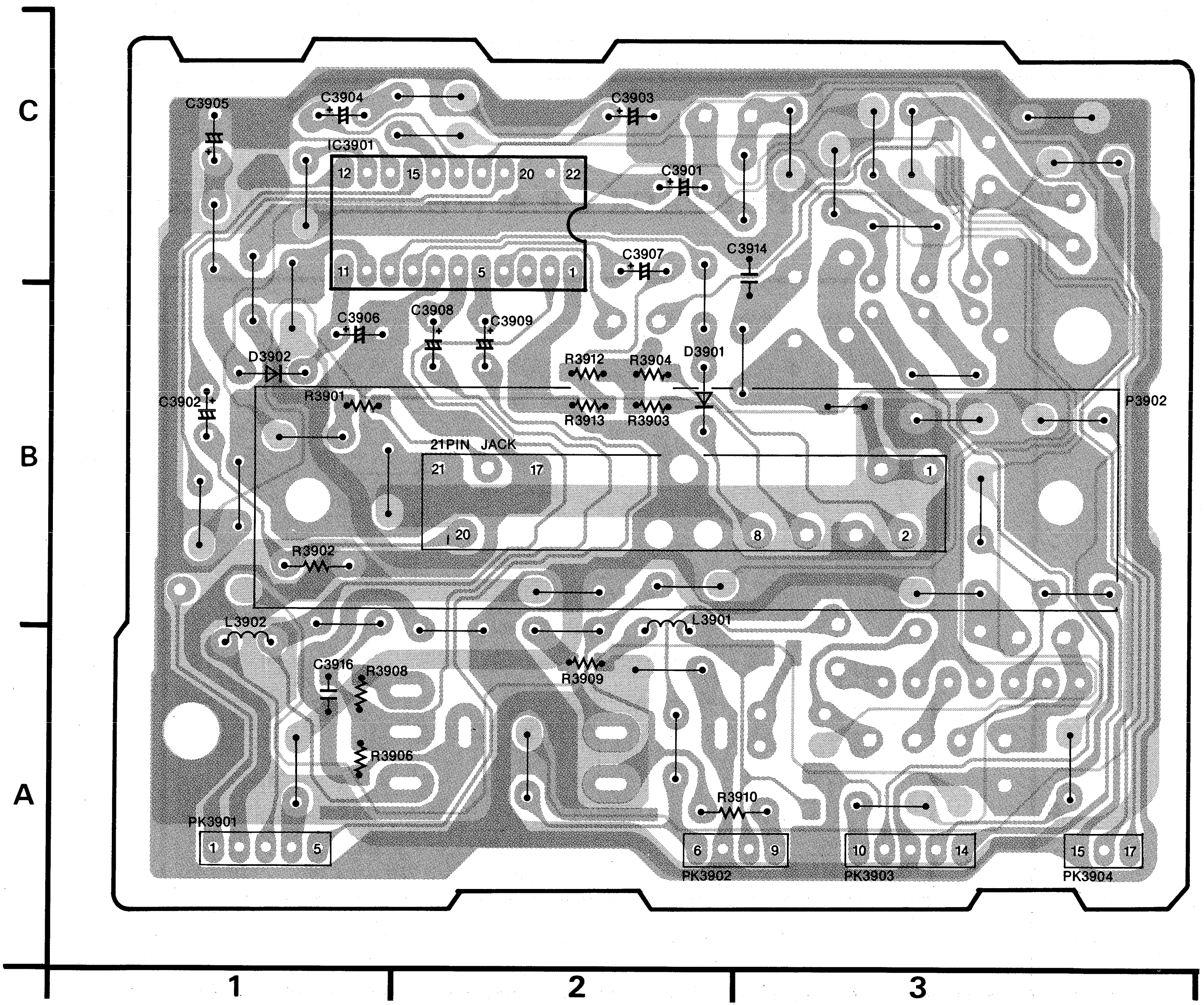
3-22. INPUT/OUTPUT PACK C.B.A. (VEP03593B: NV-L20EE)


SW3901
PAL D
PAL B/G
R3905
R3903
R3904
R3908
R4902
R4901
R3902
AUDIO IN
VIDEO IN
AUDIO OUT
VIDEO OUT
PK3901
PK3902
PK3903
PK3904
B
A
1
2

3-23. INPUT/OUTPUT PACK C.B.A. (VEP03594C: NV-L20EO/EV)

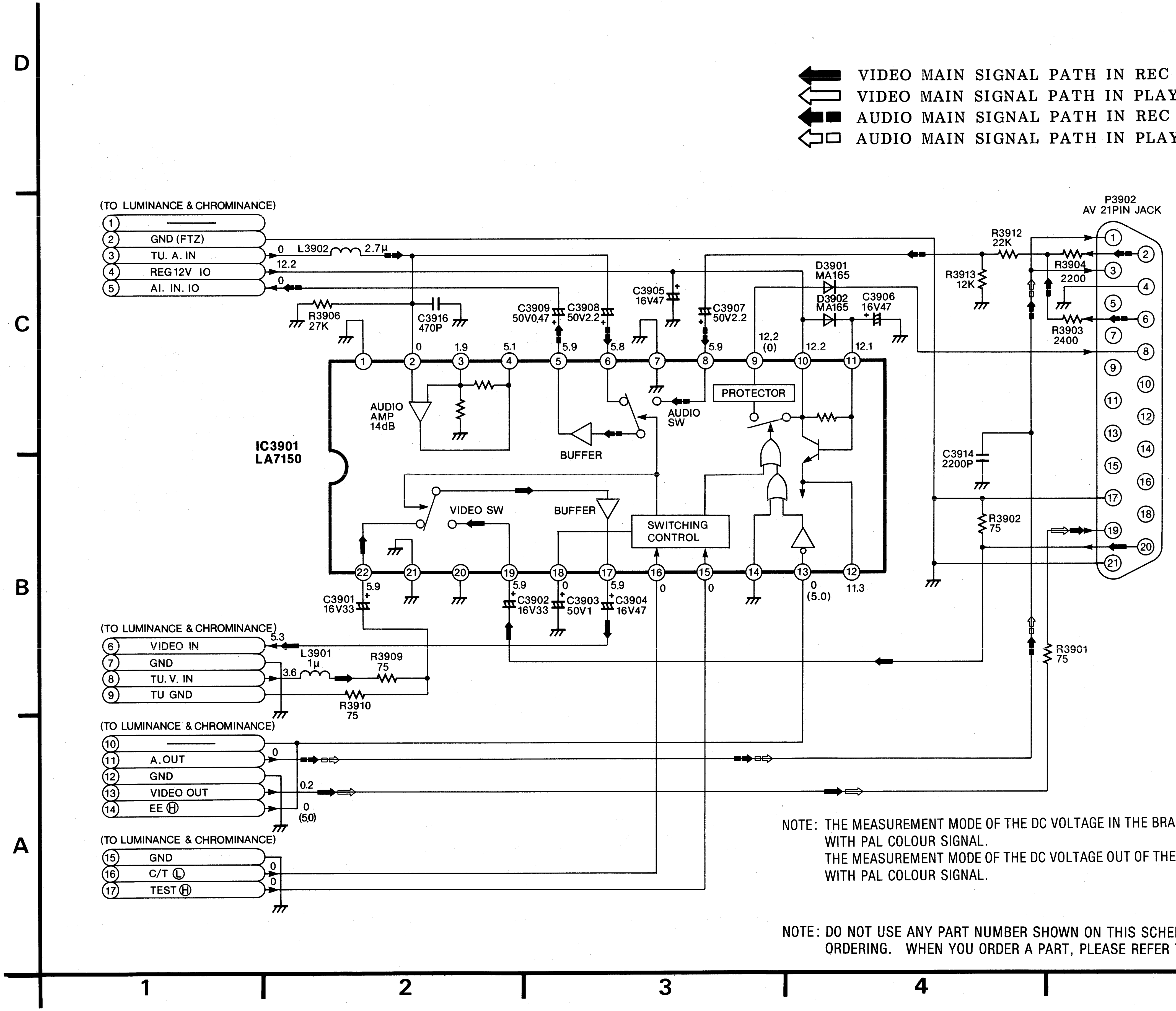
I/O PACK C.B.A.	
Integrated Circuit	
IC3901	C-1
Connector	
P3902	B-3
PK3901	A-1
PK3902	A-2
PK3903	A-3
PK3904	A-4

ADDRESS INFORMATION


C
B
A
1
2
3
C3905
C3904
IC3901
12
15
20
22
11
5
1
C3903
C3901
C3907
C3914
C3906
C3908
C3909
D3902
D3901
R3912
R3904
R3913
R3903
C3902
R3901
P3902
21PIN JACK
21
17
1
20
8
2
R3902
L3902
L3901
C3916
R3908
R3909
R3906
R3910
PK3901
PK3902
PK3903
PK3904
6
9
10
14
15
17

3-24. INPUT/OUTPUT PACK SCHEMATIC DIAGRAM (NV-L20EO/EV)

⬅ VIDEO MAIN SIGNAL PATH IN REC MODE
⇦ VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE
◀■ AUDIO MAIN SIGNAL PATH IN REC MODE
◁□ AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE



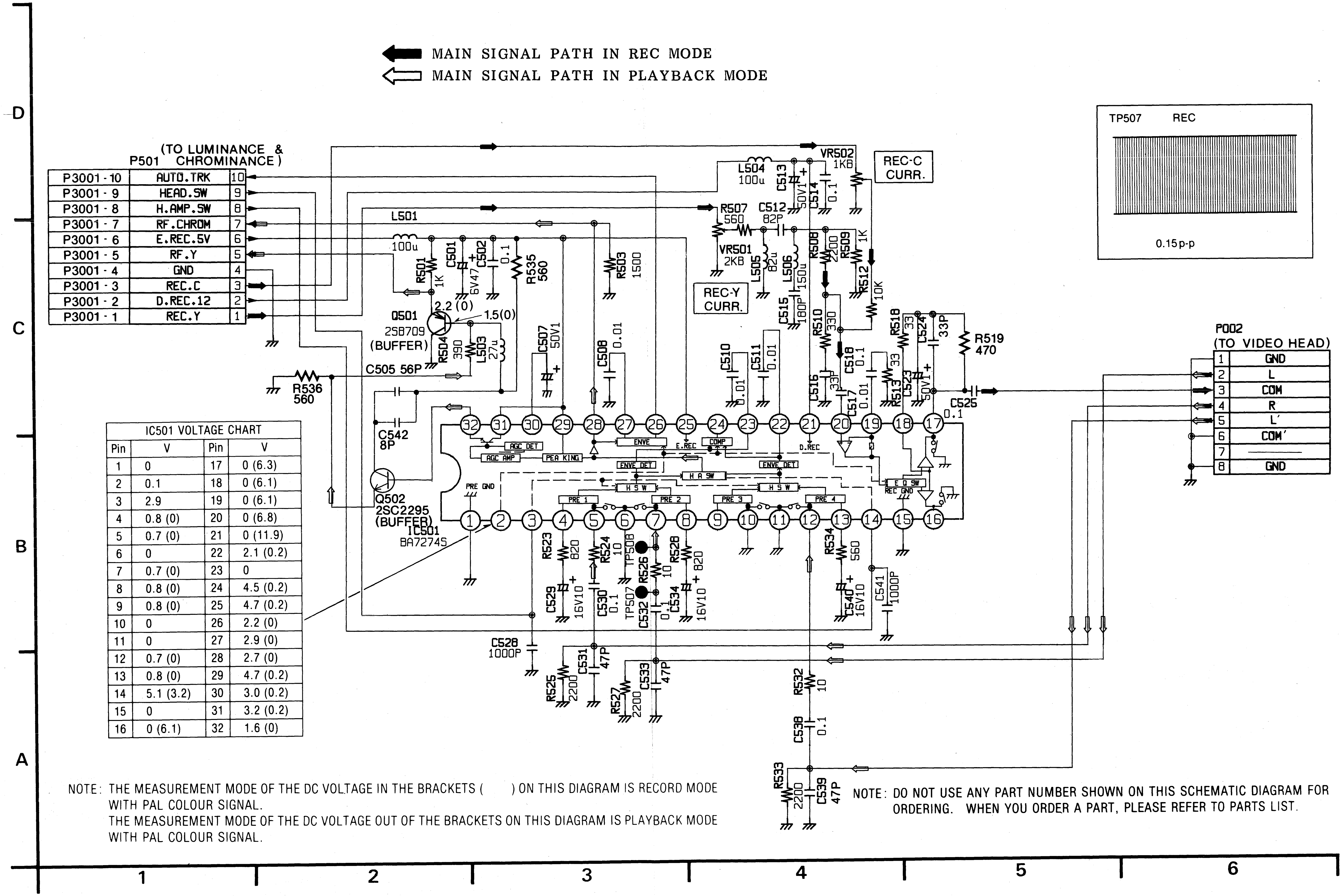
D
C
B
A
1
2
3
4
5
6
(TO LUMINANCE & CHROMINANCE)
① ————
② GND (FTZ)
③ TU. A. IN
④ REG12V IO
⑤ AI. IN. IO
0 L3902 2.7μ
12.2
0
R3906 27K
C3916 470P
C3909 50V0.47
C3908 50V2.2
C3905 16V47
C3907 50V2.2
D3901 MA165
D3902 MA165
C3906 16V47
0
1.9
5.1
5.9
5.8
5.9
12.2 (0)
12.2
12.1
AUDIO AMP 14dB
AUDIO SW
PROTECTOR
BUFFER
IC3901 LA7150
VIDEO SW
BUFFER
SWITCHING CONTROL
5.9
5.9
0
5.9
0
0
0 (5.0)
11.3
C3901 16V33
C3902 16V33
C3903 50V1
C3904 16V47
(TO LUMINANCE & CHROMINANCE)
⑥ VIDEO IN
⑦ GND
⑧ TU. V. IN
⑨ TU GND
5.3
L3901 1μ
3.6
R3909 75
R3910 75
(TO LUMINANCE & CHROMINANCE)
⑩ ————
⑪ A.OUT
⑫ GND
⑬ VIDEO OUT
⑭ EE Ⓗ
0
0.2
0 (5.0)
(TO LUMINANCE & CHROMINANCE)
⑮ GND
⑯ C/T Ⓛ
⑰ TEST Ⓗ
0
0
P3902 AV 21PIN JACK
R3912 22K
R3913 12K
R3904 2200
R3903 2400
C3914 2200P
R3902 75
R3901 75
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬ ⑭ ⑮ ⑯ ⑰ ⑱ ⑲ ⑳ ㉑

1	AUDIO OUT CH2
2	AUDIO IN CH2
3	AUDIO OUT CH1
4	AUDIO GND
5	————
6	AUDIO IN CH1
7	————
8	P.B +12V
9	————
10	————
11	————
12	————
13	————
14	————
15	————
16	————
17	GND
18	————
19	VIDEO OUT
20	VIDEO IN
21	GND

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS (   ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-25. HEAD AMP SCHEMATIC DIAGRAM



MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL PATH IN PLAYBACK MODE
P501 (TO LUMINANCE & CHROMINANCE)
P3001 - 10 AUTO.TRK 10
P3001 - 9 HEAD.SW 9
P3001 - 8 H.AMP.SW 8
P3001 - 7 RF.CHROM 7
P3001 - 6 E.REC.5V 6
P3001 - 5 RF.Y 5
P3001 - 4 GND 4
P3001 - 3 REC.C 3
P3001 - 2 D.REC.12 2
P3001 - 1 REC.Y 1
L501 100u
R501 1K
C501 6V47
C502 0.1
R535 560
R503 1500
Q501 2SB709 (BUFFER)
2.2 (0)
1.5(0)
R504 390
L503 27u
C505 56P
R536 560
C542 8P
Q502 2SC2295 (BUFFER)
IC501 BA7274S
C507 50V1
C508 0.01
L504 100u
C513 50V1
C514 0.1
VR502 1KB
REC-C CURR.
R507 560
C512 82P
VR501 2KB
L505 82u
L506 150u
R508 2200
R509 1K
R512 10K
REC-Y CURR.
C515 180P
C510 0.01
C511 0.01
R510 330
C516 33P
C517 0.01
C518 0.1
R513 33
R518 33
C524 33P
C523 50V1
R519 470
C525 0.1
AGC DET
AGC AMP
PEA KING
ENVE
E.REC
COMP
D.REC
ENVE DET
H A SW
H S W
PRE GND
PRE 1
PRE 2
PRE 3
PRE 4
E Q SW
REC GND
R523 820
R524 10
TP508
R526 10
TP507
R528 820
C529 16V10
C530 0.1
C532 0.1
C534 16V10
R534 560
C540 16V10
C541 1000P
C528 1000P
R525 2200
C531 47P
R527 2200
C533 47P
R532 10
C538 0.1
R533 2200
C539 47P
P002 (TO VIDEO HEAD)
1 GND
2 L
3 COM
4 R
5 L'
6 COM'
7
8 GND
TP507 REC
0.15p-p
D
C
B
A
1
2
3
4
5
6

IC501 VOLTAGE CHART			
Pin	V	Pin	V
1	0	17	0 (6.3)
2	0.1	18	0 (6.1)
3	2.9	19	0 (6.1)
4	0.8 (0)	20	0 (6.8)
5	0.7 (0)	21	0 (11.9)
6	0	22	2.1 (0.2)
7	0.7 (0)	23	0
8	0.8 (0)	24	4.5 (0.2)
9	0.8 (0)	25	4.7 (0.2)
10	0	26	2.2 (0)
11	0	27	2.9 (0)
12	0.7 (0)	28	2.7 (0)
13	0.8 (0)	29	4.7 (0.2)
14	5.1 (3.2)	30	3.0 (0.2)
15	0	31	3.2 (0.2)
16	0 (6.1)	32	1.6 (0)

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS (　　) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

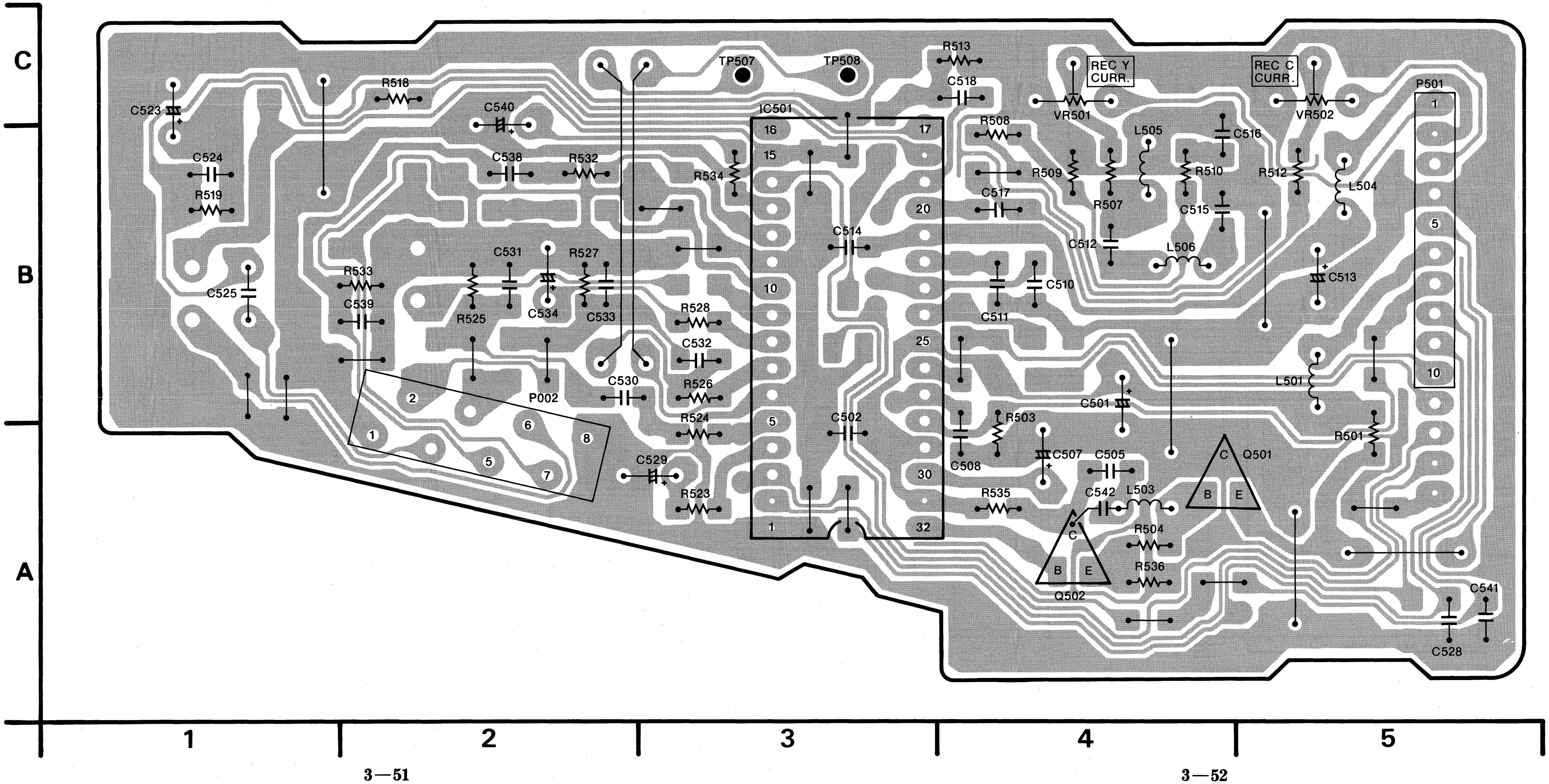
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

Back Page:
INPUT/OUTPUT PACK Section

3-26. HEAD AMP C.B.A. (VEP05137B)

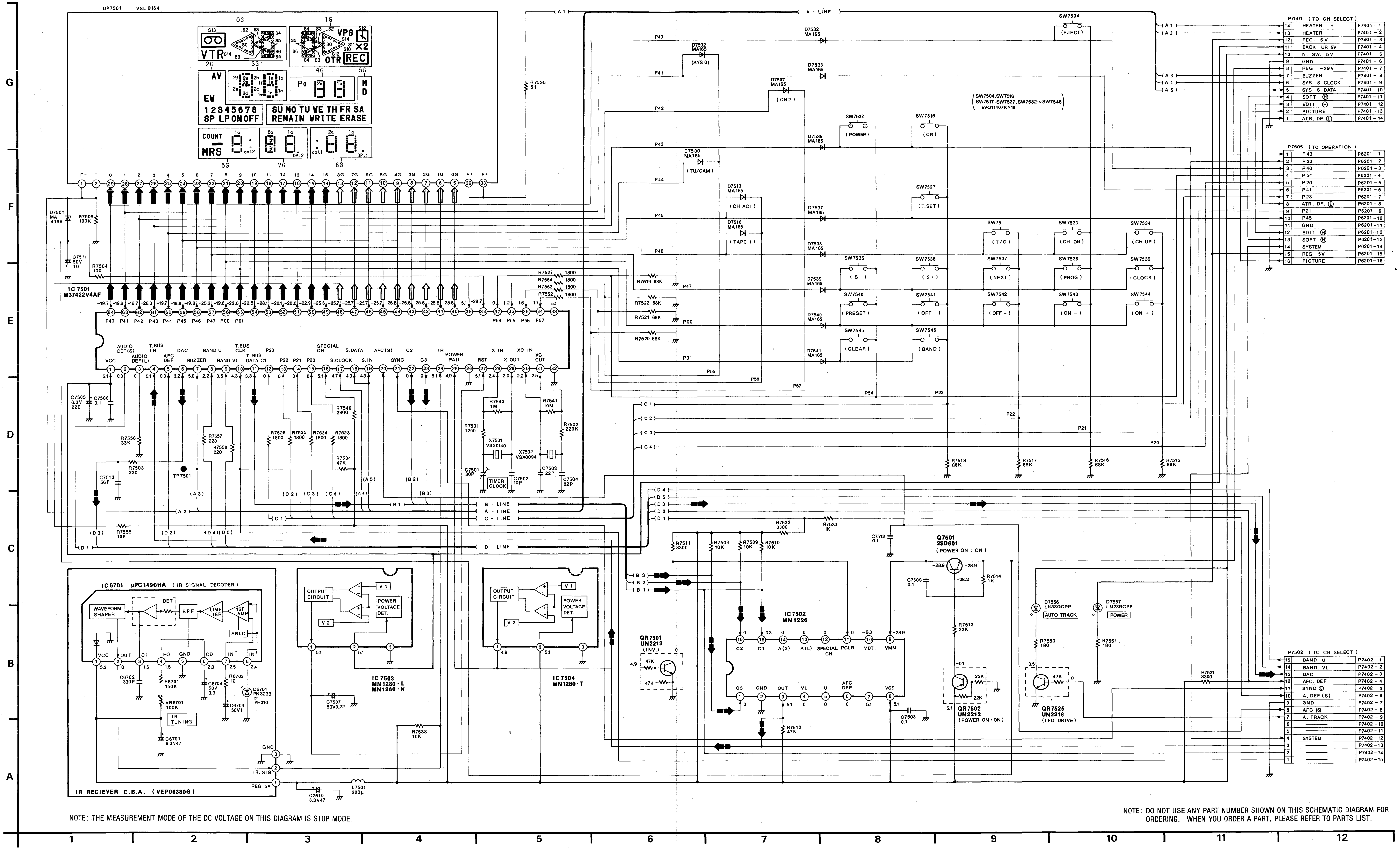
HEAD AMP C.B.A.	
Transistor	
Q501 Q502	A-5 A-4
Integrated Circuit	
IC501	C-3
Test Point	
TP507 TP508	C-3 C-3
Adjustment	
VR501 VR502	C-4 C-5
Connector	
P002 P501	B-2 C-5

ADDRESS INFORMATION


C
B
A
1
2
3
4
5
C523
C524
R519
C525
R518
C540
C538
R532
R533
C539
C531
R527
R525
C534
C533
P002
1
2
5
6
7
8
C530
C529
TP507
TP508
IC501
16
15
17
20
10
25
5
30
1
32
R534
R528
C532
R526
R524
R523
C514
C502
R513
C518
R508
C517
R509
R507
C512
C511
C510
C508
R503
C507
C505
C542
L503
R535
R504
R536
Q502
B
E
C
Q501
C
B
E
REC Y
CURR.
VR501
L505
C516
R510
C515
L506
REC C
CURR.
VR502
R512
L504
C513
C501
L501
R501
P501
1
5
10
C541
C528

3-29. TIMER SCHEMATIC DIAGRAM (NV-L20EE)

SEGMENT CONTROL SIGNAL GRID CONTROL SIGNAL TUNE CONTROL SIGNAL



DP7501 VSL 0164
IC 7501 M37422V4AF
IC 6701 μPC1490HA (IR SIGNAL DECODER)
WAVEFORM SHAPER
DET
BPF
LIMITER
1ST AMP
ABLC
IR TUNING
IR RECIEVER C.B.A. (VEP06380G)
IC 7503 MN1280-L MN1280-K
IC 7504 MN1280-T
OUTPUT CIRCUIT
POWER VOLTAGE DET.
IC 7502 MN1226
Q7501 2SD601 (POWER ON : ON)
QR7501 UN2213 (INV.)
QR7502 UN2212 (POWER ON : ON)
QR7525 UN2216 (LED DRIVE)
D7556 LN38GCPP AUTO TRACK
D7557 LN28RCPP POWER
TIMER CLOCK
X7501 VSX0140
X7502 VSX0094
A - LINE
B - LINE
C - LINE
D - LINE
SW7504 (EJECT)
SW7532 (POWER)
SW7516 (CR)
SW7527 (T.SET)
SW75 (T/C)
SW7533 (CH DN)
SW7534 (CH UP)
SW7535 (S-)
SW7536 (S+)
SW7537 (NEXT)
SW7538 (PROG)
SW7539 (CLOCK)
SW7540 (PRESET)
SW7541 (OFF-)
SW7542 (OFF+)
SW7543 (ON -)
SW7544 (ON +)
SW7545 (CLEAR)
SW7546 (BAND)
SW7504, SW7516 SW7517, SW7527, SW7532~SW7546 EVQ11407K×19
P7501 (TO CH SELECT)
14 HEATER + P7401-1
13 HEATER − P7401-2
12 REG. 5V P7401-3
11 BACK UP. 5V P7401-4
10 N. SW. 5V P7401-5
9 GND P7401-6
8 REG. −29V P7401-7
7 BUZZER P7401-8
6 SYS. S. CLOCK P7401-9
5 SYS. S. DATA P7401-10
4 SOFT Ⓗ P7401-11
3 EDIT Ⓗ P7401-12
2 PICTURE P7401-13
1 ATR. DF. Ⓛ P7401-14
P7505 (TO OPERATION)
1 P43 P6201-1
2 P22 P6201-2
3 P40 P6201-3
4 P54 P6201-4
5 P20 P6201-5
6 P41 P6201-6
7 P23 P6201-7
8 ATR. DF. Ⓛ P6201-8
9 P21 P6201-9
10 P45 P6201-10
11 GND P6201-11
12 EDIT Ⓗ P6201-12
13 SOFT Ⓗ P6201-13
14 SYSTEM P6201-14
15 REG. 5V P6201-15
16 PICTURE P6201-16
P7502 (TO CH SELECT)
15 BAND. U P7402-1
14 BAND. VL P7402-2
13 DAC P7402-3
12 AFC. DEF P7402-4
11 SYNC Ⓛ P7402-5
10 A. DEF (S) P7402-6
9 GND P7402-7
8 AFC (S) P7402-8
7 A. TRACK P7402-9
6 P7402-10
5 P7402-11
4 SYSTEM P7402-12
3 P7402-13
2 P7402-14
1 P7402-15
G F E D C B A
1 2 3 4 5 6 7 8 9 10 11 12

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

Back Page:
TIMER Section

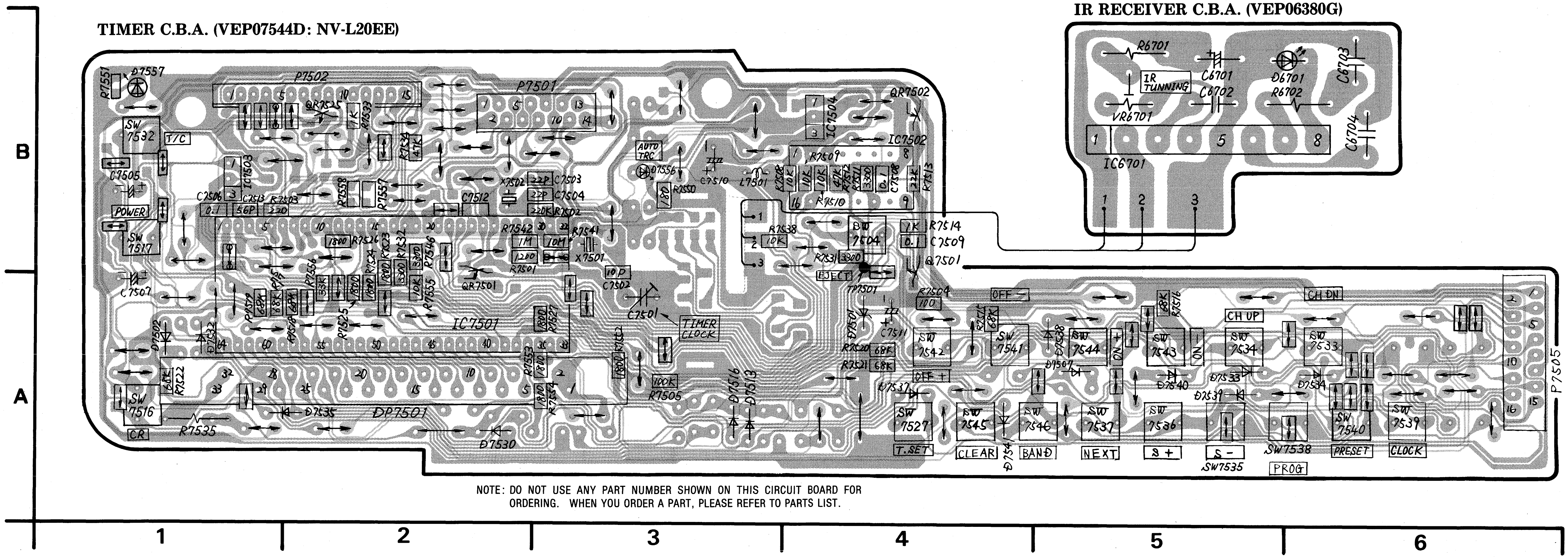
3-30. TIMER C.B.A. (VEP07544D: NV-L20EE)

TIMER C.B.A.			
Transistor		**Test Point**	
Q7501	B-4	TP7501	B-4
Transistor & Resistor		**Adjustment**	
QR7501	A-2	C7501	A-3
QR7502	B-4	VR6701	B-5
QR7525	B-2	**Connector**	
Integrated Circuit		P7501	B-2
IC6701	B-5	P7502	B-2
IC7501	B-2	P7505	A-6
IC7502	B-4		
IC7503	B-1		
IC7504	B-2		

ADDRESS INFORMATION

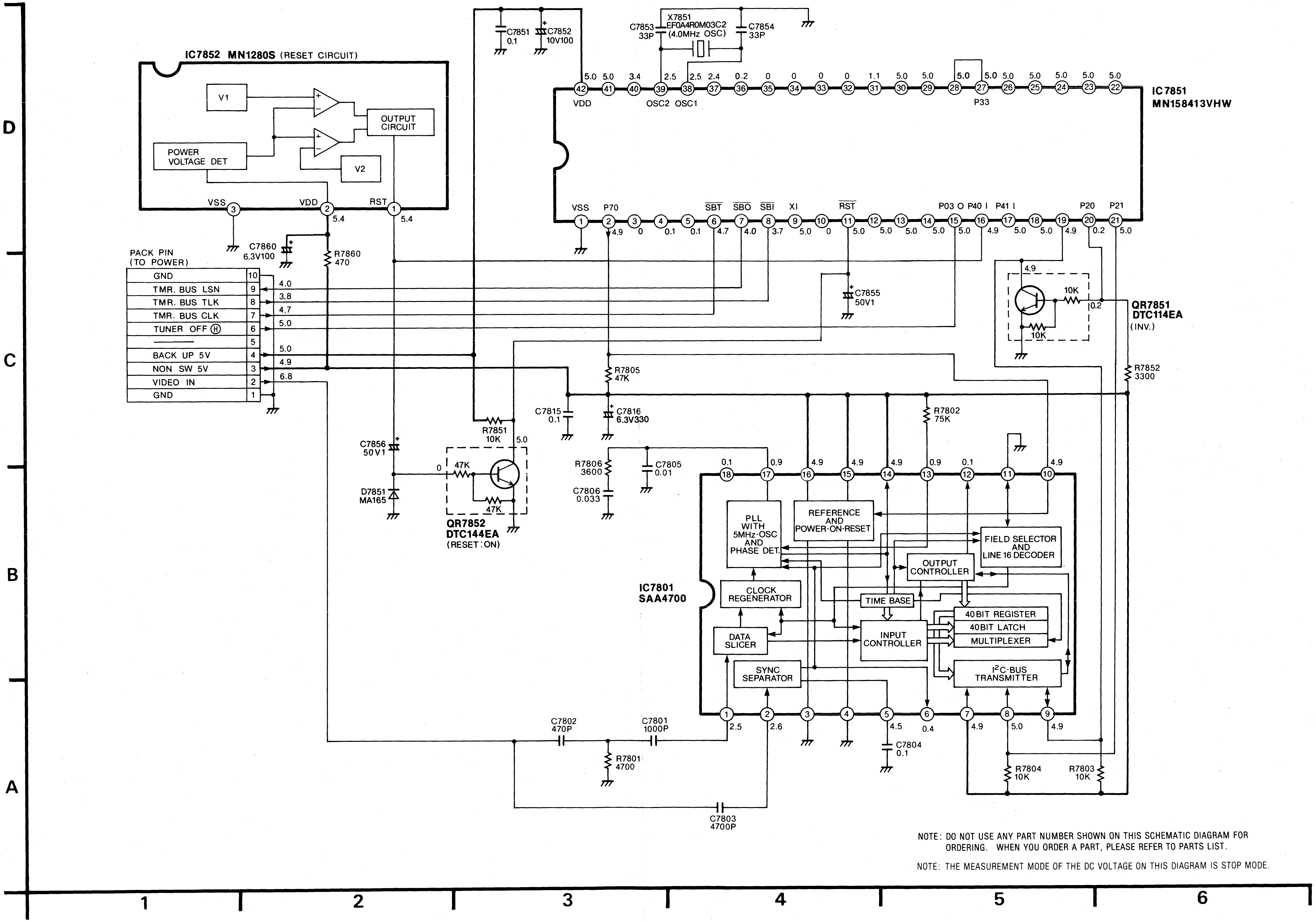
IR RECEIVER C.B.A. (VEP06380G)

TIMER C.B.A. (VEP07544D: NV-L20EE)


B
A
1
2
3
4
5
6
P7551
D7557
P7502
QR7525
P7501
QR7502
IC7502
IC7504
SW 7532
T/C
C7505
IC7503
POWER
SW 7517
C7507
C7506
C7513
R7503
R7558
R7557
X7502
C7503
C7504
C7512
R7502
R7542
R7541
R7501
X7501
QR7501
C7502
AUTO TRC
D7556
C7510
L7501
R7550
R7509
R7510
R7538
R7531
SW 7504
EJECT
R7514
C7509
Q7501
TP7501
R7504
IC7501
C7501
TIMER CLOCK
D7501
C7511
R7520
R7521
D7502
R7522
SW 7516
CR
R7535
D7535
DP7501
D7530
R7505
D7516
D7513
R7553
R7527
OFF −
OFF +
R7516
CH UP
CH DN
SW 7542
SW 7541
SW 7544
SW 7543
SW 7534
SW 7533
D7567
D7540
D7533
D7539
D7534
D7537
SW 7527
SW 7545
SW 7546
SW 7537
SW 7536
SW7535
SW7538
SW 7540
SW 7539
T.SET
CLEAR
BAND
NEXT
S +
S −
PROG
PRESET
CLOCK
P7505
R6701
C6701
D6701
C6703
IR TUNNING
C6702
R6702
VR6701
C6704
IC6701

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS CIRCUIT BOARD FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-31. VPS PACK SCHEMATIC DIAGRAM


IC7852 MN1280S (RESET CIRCUIT)
V1
V2
OUTPUT CIRCUIT
POWER VOLTAGE DET
VSS
VDD
RST
5.4
5.4
C7860 6.3V100
R7860 470
PACK PIN (TO POWER)
GND 10
TMR. BUS LSN 9
TMR. BUS TLK 8
TMR. BUS CLK 7
TUNER OFF Ⓗ 6
5
BACK UP 5V 4
NON SW 5V 3
VIDEO IN 2
GND 1
4.0
3.8
4.7
5.0
5.0
4.9
6.8
C7851 0.1
C7852 10V100
X7851 EF0A4R0M03C2 (4.0MHz OSC)
C7853 33P
C7854 33P
IC7851 MN158413VHW
VDD
OSC2 OSC1
P33
VSS
P70
SBT
SBO
SBI
XI
RST
P03 O P40 I P41 I
P20 P21
C7855 50V1
QR7851 DTC114EA (INV.)
10K
10K
4.9
0.2
R7852 3300
R7805 47K
C7815 0.1
C7816 6.3V330
R7851 10K
5.0
C7856 50V1
D7851 MA165
47K
47K
QR7852 DTC144EA (RESET: ON)
R7806 3600
C7805 0.01
C7806 0.033
R7802 75K
IC7801 SAA4700
PLL WITH 5MHz-OSC AND PHASE DET.
REFERENCE AND POWER-ON-RESET
FIELD SELECTOR AND LINE 16 DECODER
OUTPUT CONTROLLER
CLOCK REGENERATOR
TIME BASE
40BIT REGISTER
40BIT LATCH
MULTIPLEXER
DATA SLICER
INPUT CONTROLLER
SYNC SEPARATOR
I²C-BUS TRANSMITTER
C7802 470P
C7801 1000P
R7801 4700
C7803 4700P
C7804 0.1
R7804 10K
R7803 10K
D
C
B
A
1
2
3
4
5
6

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

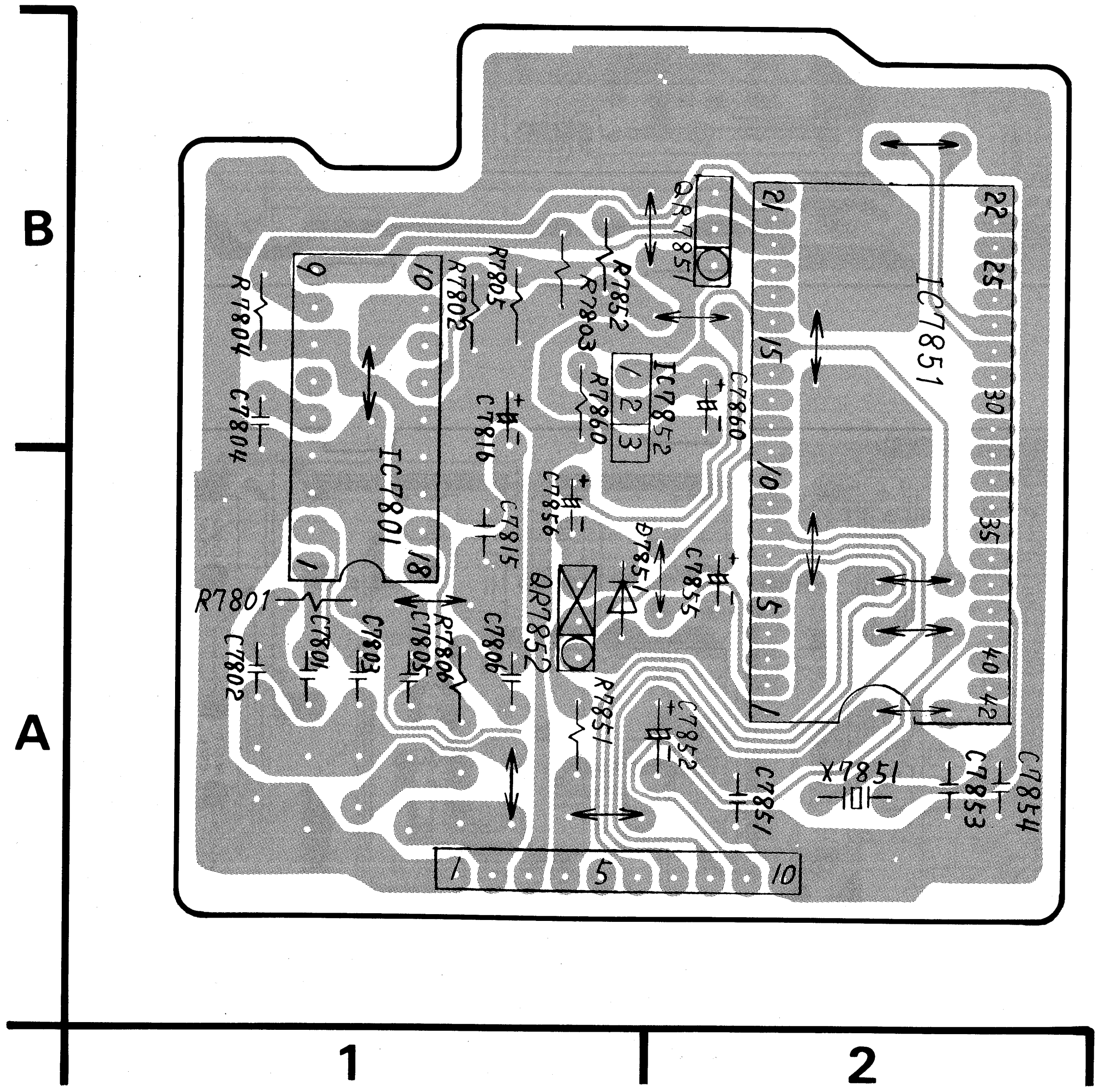
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

Back Page:
TIMER Section

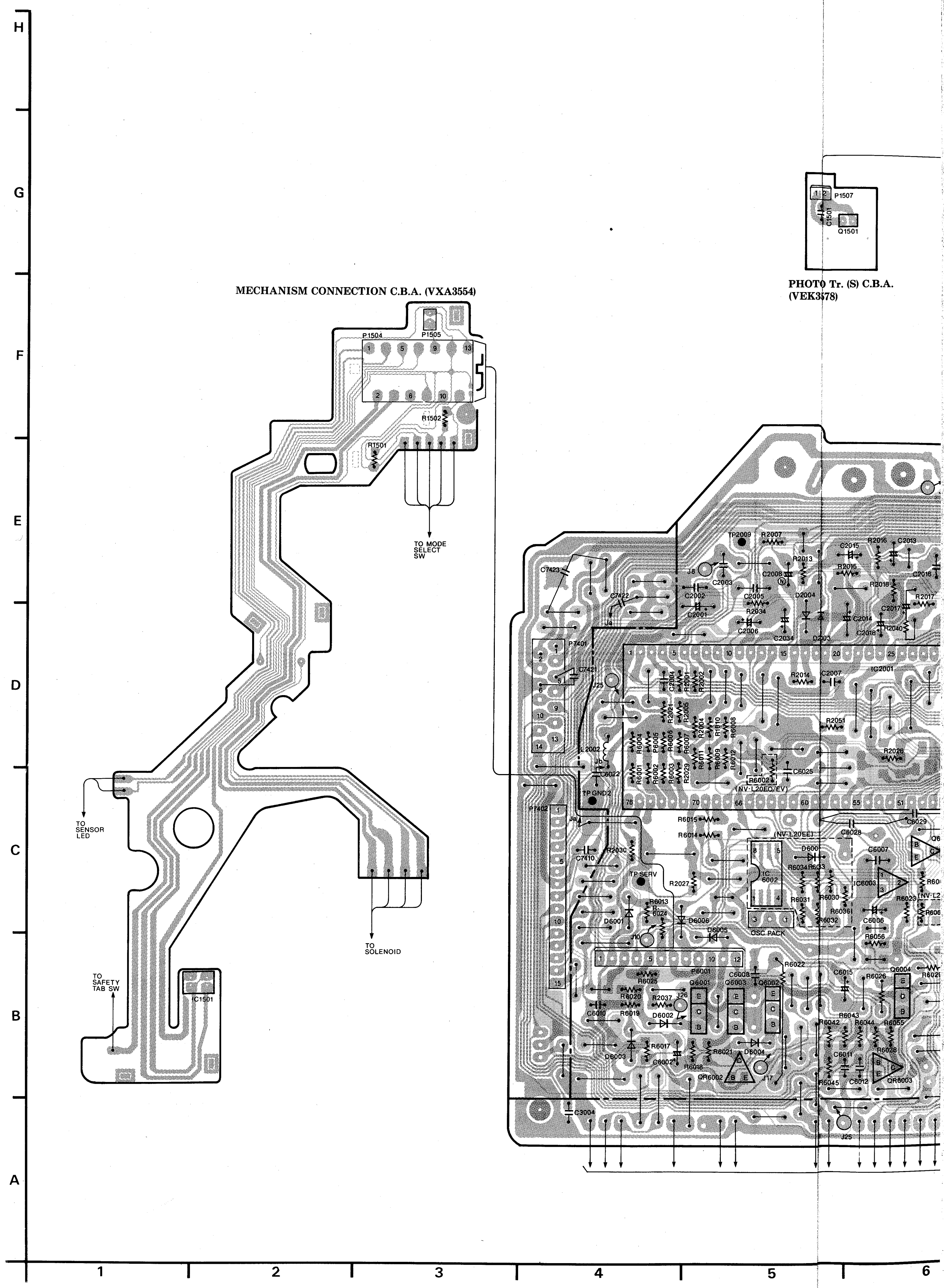
3-32. VPS PACK C.B.A. (VEP07538B: NV-L20EV)
(VW-VPS5: NV-L20EO; OPTION)

VPS PACK C.B.A.	
Transistor & Resistor	
QR7851	B-2
QR7852	A-1
Integrated Circuit	
IC7801	A-1
IC7851	B-2
IC7852	B-2

ADDRESS INFORMATION


B
A
1
2
IC7801
IC7851
IC7852
QR7851
QR7852
R7801
R7802
R7803
R7804
R7805
R7806
R7851
R7852
R7860
C7801
C7802
C7803
C7804
C7805
C7806
C7815
C7816
C7851
C7852
C7853
C7854
C7855
C7856
C7860
D7851
X7851

3-33. MAIN C.B.A. (VEP03588AK: NV-L20EO) (VEP03588AH: NV-L20EV) (V


H
G
F
E
D
C
B
A
1
2
3
4
5
6
MECHANISM CONNECTION C.B.A. (VXA3554)
PHOTO Tr. (S) C.B.A.
(VEK3378)
P1507
Q1501
P1504
P1505
R1501
R1502
TO MODE SELECT SW
TO SENSOR LED
TO SOLENOID
TO SAFETY TAB SW
IC1501
IC2001
IC6002
OSC PACK
TP SERV
TP GND2
P7401
P7402
C3004
J25

EP03588AH: NV-L20EV) (VEP03588AL: NV-L20EE)

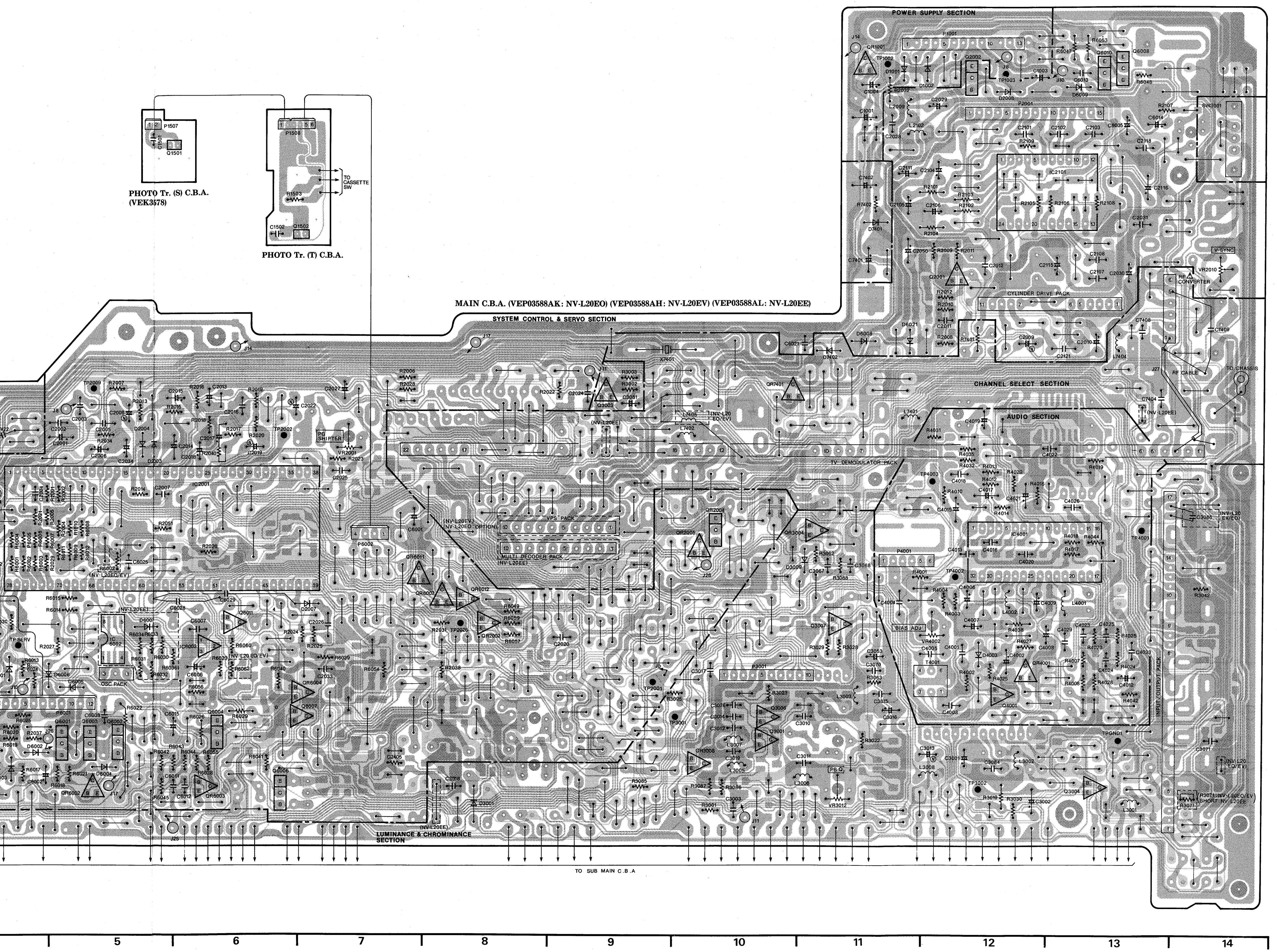


PHOTO Tr. (S) C.B.A.
(VEK3578)
PHOTO Tr. (T) C.B.A.
TO CASSETTE SW
MAIN C.B.A. (VEP03588AK: NV-L20EO) (VEP03588AH: NV-L20EV) (VEP03588AL: NV-L20EE)
POWER SUPPLY SECTION
SYSTEM CONTROL & SERVO SECTION
CHANNEL SELECT SECTION
AUDIO SECTION
LUMINANCE & CHROMINANCE SECTION
CYLINDER DRIVE PACK
TV DEMODULATOR PACK
VPS PACK
MULTI DECODER PACK
OSC PACK
INPUT/OUTPUT PACK
RF CONVERTER
RF CABLE
TO CHASSIS
PG SHIFTER
BIAS ADJ
PB Q
V-SYNC
TO SUB MAIN C.B.A
5
6
7
8
9
10
11
12
13
14

SYSTEM CONTROL & SERVO Section	
Transistor	
Q1501	G-5
Q1502	F-7
Q2001	F-12
Q2002	H-12
Q6001	B-5
Q6002	B-5
Q6003	B-5
Q6004	B-6
Q6006	B-6
Q6007	B-7
Q6008	H-13
Q6010	H-13
Q6011	C-6
Transistor & Resistor	
QR2002	C-8
QR2004	D-10
QR2005	D-10
QR6002	B-5
QR6003	B-6
QR6004	B-7
QR6007	C-8
QR6011	D-7
QR6012	C-8
Integrated Circuit	
IC1501	B-2
IC2001	D-6
IC2101	G-13
IC6002	C-5
IC6003	C-6
Test Point	
TP2001	C-9
TP2002	E-6
TP2009	E-5
TP2026	C-8
TPSERV	C-4
TPGND2	C-4
Adjustment	
VR2001	D-7
VR2010	F-14
Connector	
P1504	F-3
P1505	F-3
P1507	G-5
P1508	G-6
P2001	G-12
P6001	B-5
P6002	D-7

ADDRESS INFORMATION

AUDIO Section	
Transistor	
Q4001	B-12
Transistor & Resistor	
QR4001	C-12
Integrated Circuit	
IC4001	D-12
Test Point	
TP4001	D-13
TP4002	C-12
TP4003	D-12
Adjustment	
VR4002	C-12
Connector	
P4001	D-11

ADDRESS INFORMATION

LUMINANCE & CHROMINANCE Section	
Transistor	
Q3001	B-10
Q3003	E-9
Q3004	B-13
Q3006	B-10
Q3007	C-11
Transistor & Resistor	
QR3004	D-11
QR3008	B-10
Test Point	
TP3001	B-10
TP3002	B-12
Adjustment	
VR3012	B-11
Connector	
P3001	C-10

ADDRESS INFORMATION

CHANNEL SELECT Section	
Transistor & Resistor	
QR7401	E-10
Connector	
P7401	D-4
P7402	C-4

ADDRESS INFORMATION

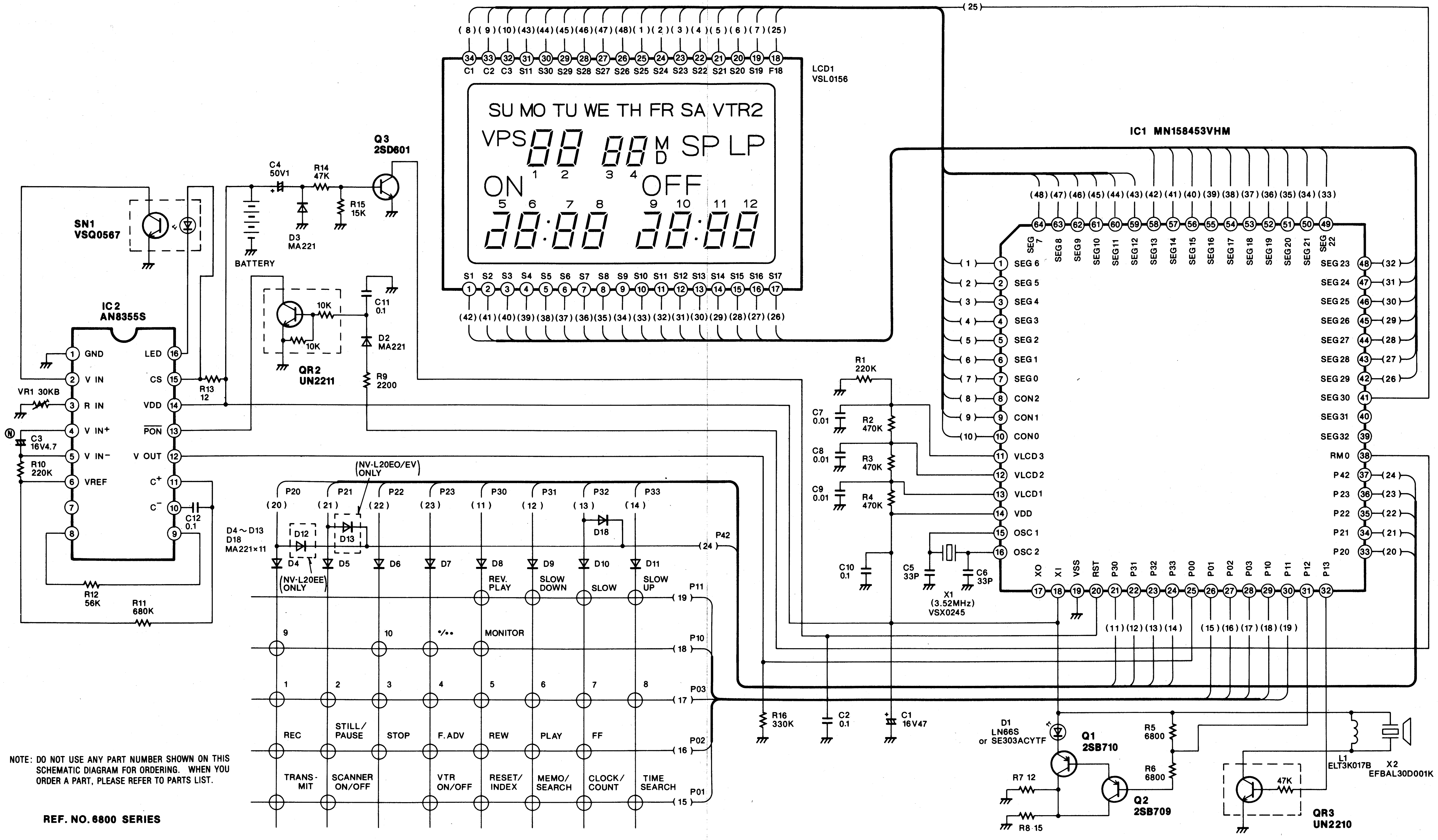
POWER Section	
Transistor & Resistor	
QR1001	H-11
Test Point	
TP1002	H-11
TP1003	G-12
TPGND1	B-13
Connector	
P1001	H-12

ADDRESS INFORMATION

3-34. REMOTE CONTROLLER (BUILD IN DIGITAL SCANNER) SCHEMATIC DIAGRAM

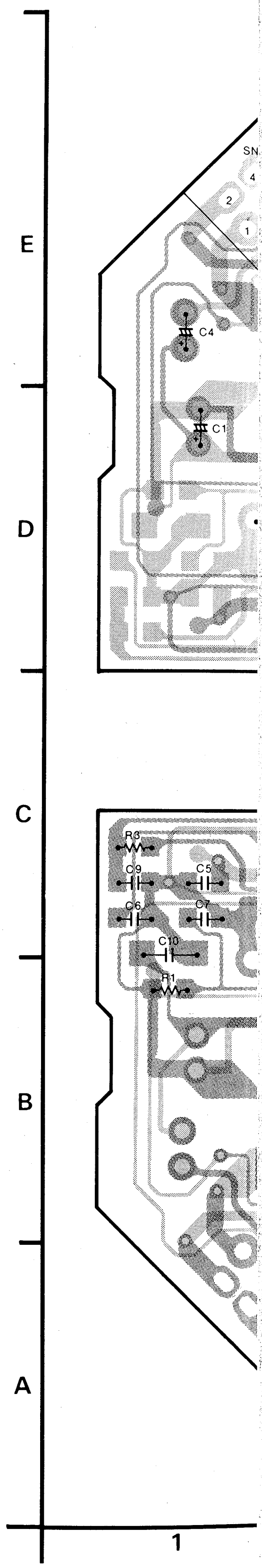
— UNIT NO.: VEQ0930 (NV-L20EO/EV), VEQ0932 (NV-L20EE) —

3-35. REMOT


LCD1
VSL0156
C1 C2 C3 S11 S30 S29 S28 S27 S26 S25 S24 S23 S22 S21 S20 S19 F18
SU MO TU WE TH FR SA VTR2
VPS SP LP
ON OFF
S1 S2 S3 S4 S5 S6 S7 S8 S9 S10 S11 S12 S13 S14 S15 S16 S17
IC1 MN158453VHM
SEG 6
SEG 5
SEG 4
SEG 3
SEG 2
SEG 1
SEG 0
CON2
CON1
CON0
VLCD3
VLCD2
VLCD1
VDD
OSC 1
OSC 2
XO XI VSS RST P30 P31 P32 P33 P00 P01 P02 P03 P10 P11 P12 P13
SEG 7 SEG 8 SEG 9 SEG10 SEG11 SEG12 SEG13 SEG14 SEG15 SEG16 SEG17 SEG18 SEG19 SEG20 SEG21 SEG 22
SEG 23
SEG 24
SEG 25
SEG 26
SEG27
SEG 28
SEG 29
SEG 30
SEG31
SEG32
RMO
P42
P23
P22
P21
P20
Q3
2SD601
C4
50V1
R14
47K
R15
15K
D3
MA221
BATTERY
SN1
VSQ0567
IC2
AN8355S
GND
V IN
R IN
V IN+
V IN−
VREF
LED
CS
VDD
PON
V OUT
C+
C−
VR1 30KB
C3
16V4.7
R10
220K
R13
12
C12
0.1
R12
56K
R11
680K
10K
10K
QR2
UN2211
C11
0.1
D2
MA221
R9
2200
R1
220K
C7
0.01
R2
470K
C8
0.01
R3
470K
C9
0.01
R4
470K
C10
0.1
C5
33P
C6
33P
X1
(3.52MHz)
VSX0245
(NV-L20EO/EV)
ONLY
P20 P21 P22 P23 P30 P31 P32 P33
D4～D13
D18
MA221×11
D12
D13
D18
D4 D5 D6 D7 D8 D9 D10 D11
(NV-L20EE)
ONLY
P42
REV. PLAY
SLOW DOWN
SLOW
SLOW UP
P11
9
10
*/**
MONITOR
P10
1 2 3 4 5 6 7 8
P03
REC
STILL/ PAUSE
STOP
F. ADV
REW
PLAY
FF
P02
TRANS-MIT
SCANNER ON/OFF
VTR ON/OFF
RESET/ INDEX
MEMO/ SEARCH
CLOCK/ COUNT
TIME SEARCH
P01
R16
330K
C2
0.1
C1
16V47
D1
LN66S
or SE303ACYTF
Q1
2SB710
R5
6800
R6
6800
R7 12
R8 15
Q2
2SB709
47K
QR3
UN2210
L1
ELT3K017B
X2
EFBAL30D001K

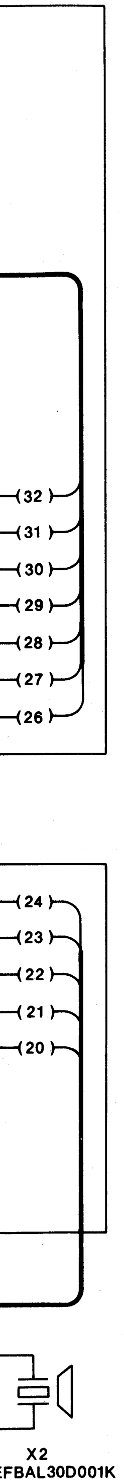
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

REF. NO. 6800 SERIES

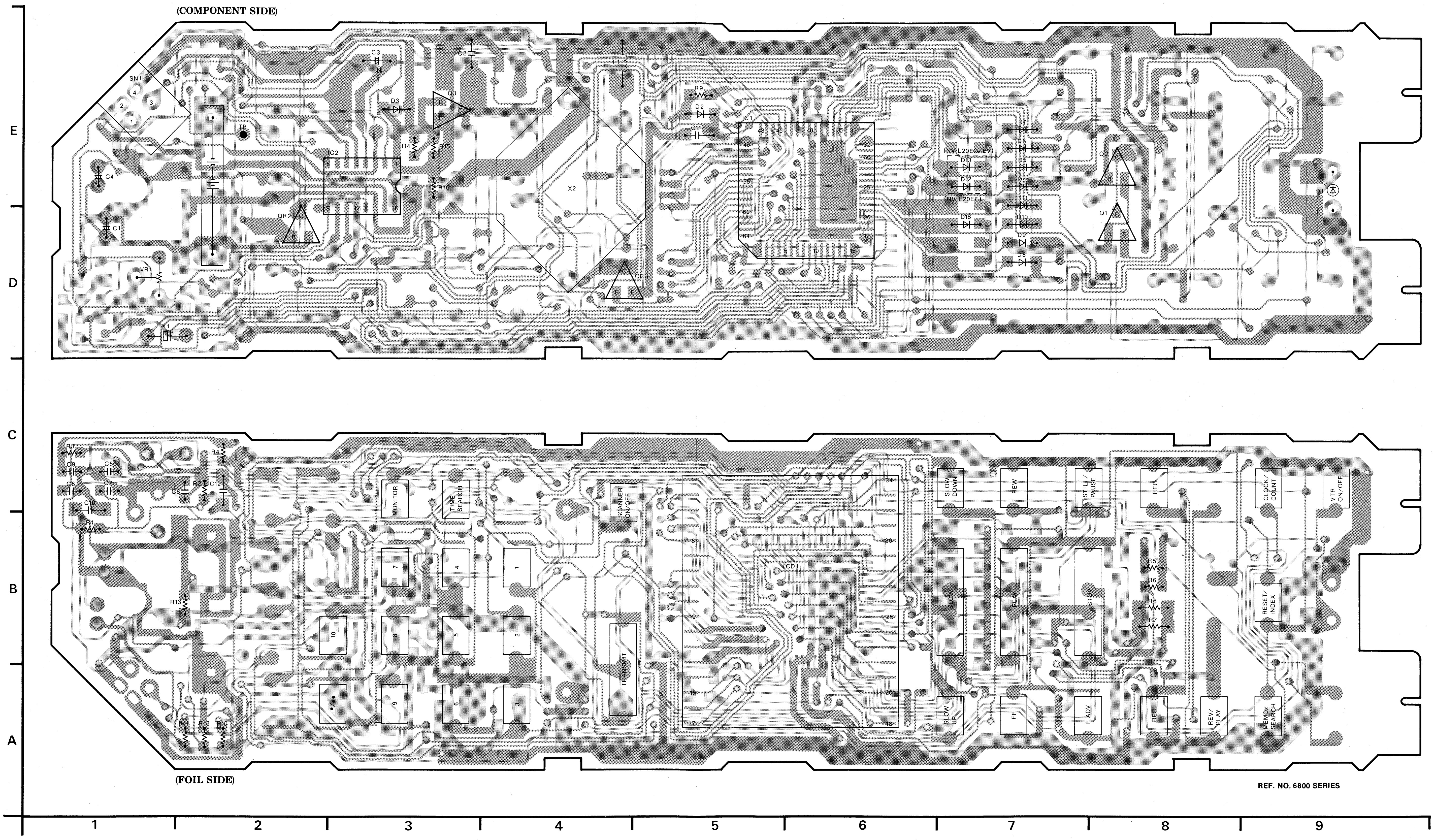

E
D
C
B
A
1
C4
C1
C9
C5
C6
C7
C10
R1

Back Page:
VPS PACK & MAIN C.B.A. Section

3-35. REMOTE CONTROLLER (BUILD IN DIGITAL SCANNER) C.B.A. (VEP66079G: NV-L20EO/EV) (VEP66079F: NV-L20EE)

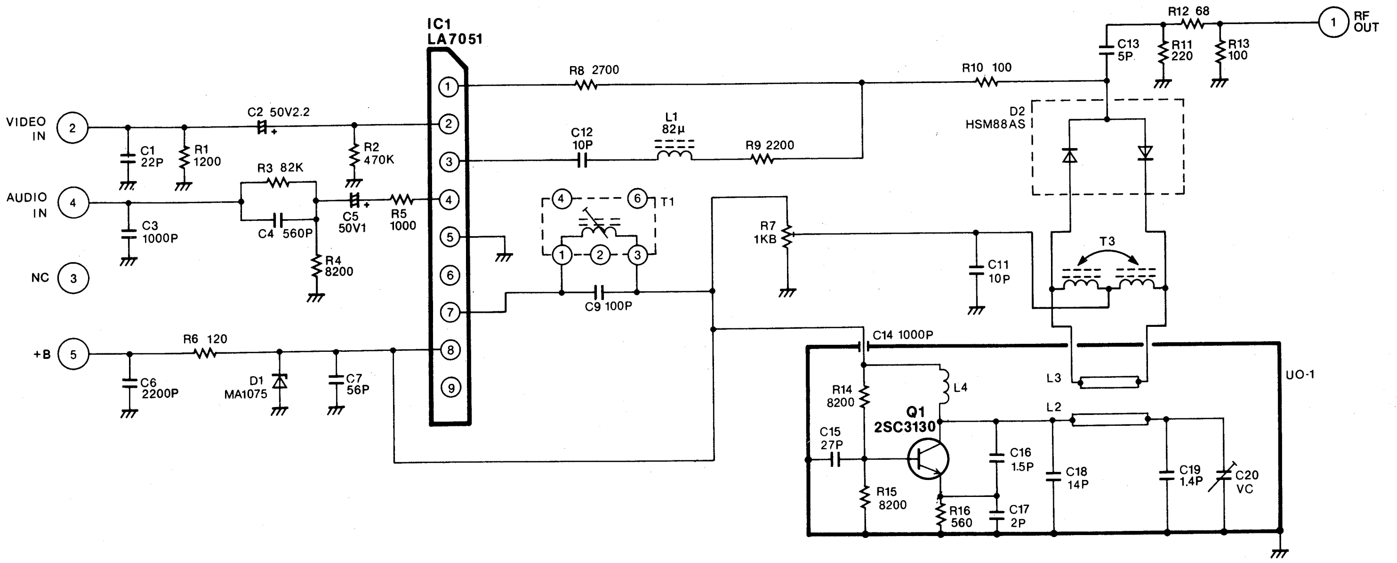


(32)
(31)
(30)
(29)
(28)
(27)
(26)
(24)
(23)
(22)
(21)
(20)
X2
EFBAL30D001K

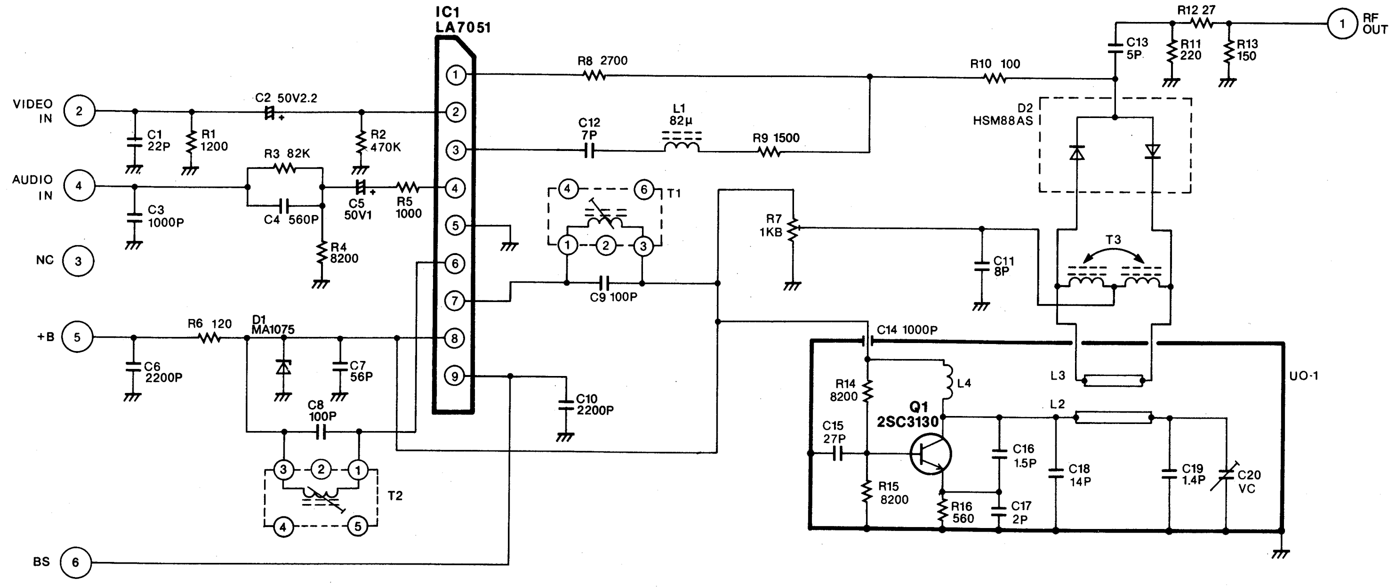


(COMPONENT SIDE)
SN1
TP
C1
C2
C3
C4
C11
D2
D3
D7
D6
D5
D4
D11
D10
D9
D8
D13
D12
D18
D1
(NV-L20EO/EV)
(NV-L20EE)
IC1
IC2
Q1
Q2
Q3
QR2
QR3
R9
R14
R15
R16
L1
X1
X2
VR1
(FOIL SIDE)
R1
R2
R3
R4
R5
R6
R7
R8
R10
R11
R12
R13
C5
C6
C7
C8
C9
C10
C12
LCD1
MONITOR
TIME SEARCH
SCANNER ON/OFF
TRANSMIT
SLOW DOWN
REW
STILL/PAUSE
REC
CLOCK/COUNT
VTR ON/OFF
SLOW
PLAY
STOP
RESET/INDEX
SLOW UP
FF
F.ADV
REV/PLAY
MEMO/SEARCH
REF. NO. 6800 SERIES
E
D
C
B
A
1
2
3
4
5
6
7
8
9

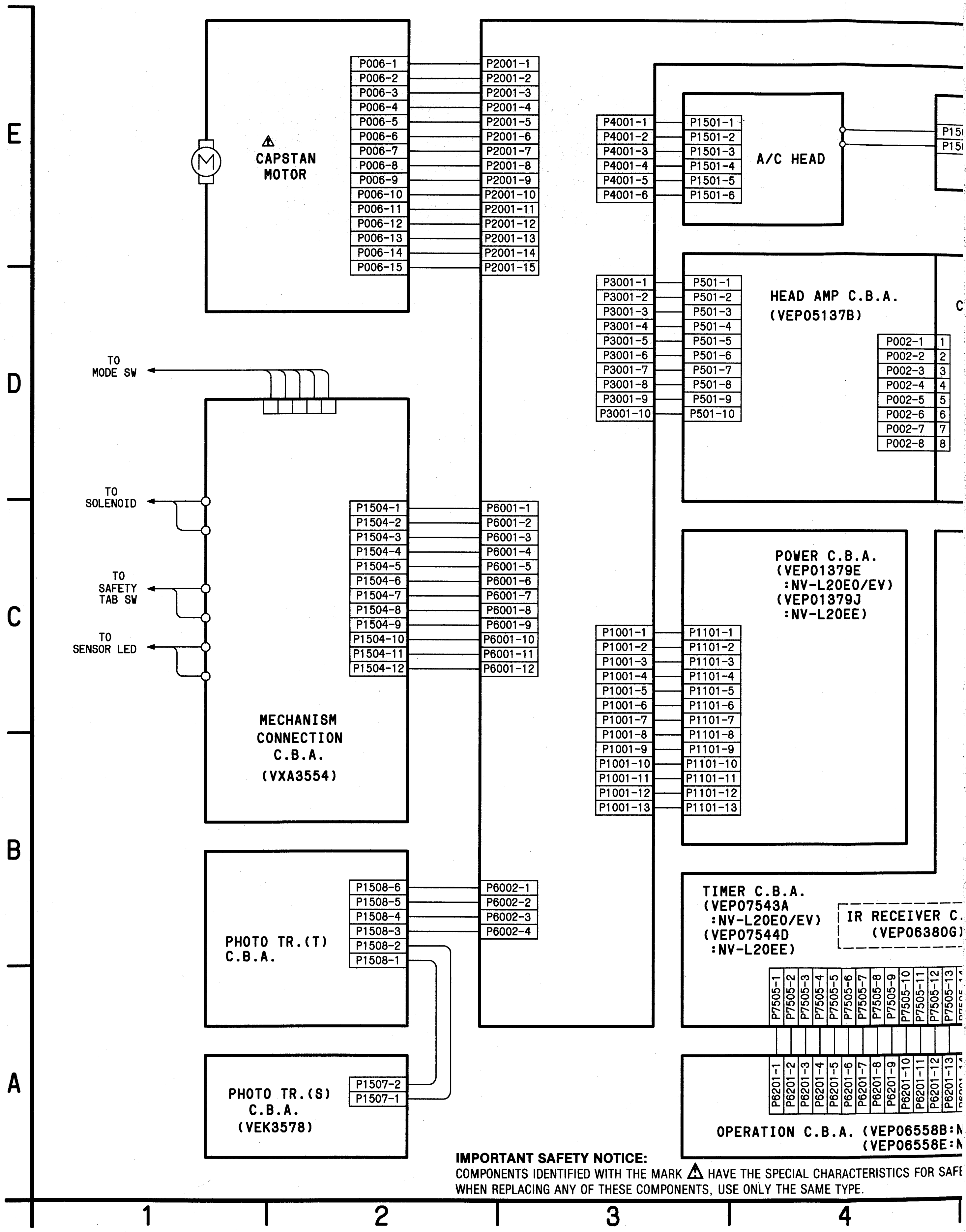
3-36. RF CONVERTER SCHEMATIC DIAGRAM (ENC17954: NV-L20EO/EV)


IC1
LA7051
VIDEO IN 2
AUDIO IN 4
NC 3
+B 5
C1 22P
R1 1200
C2 50V2.2
R2 470K
R3 82K
C3 1000P
C4 560P
C5 50V1
R5 1000
R4 8200
R6 120
C6 2200P
D1 MA1075
C7 56P
R8 2700
C12 10P
L1 82μ
R9 2200
T1
R7 1KB
C9 100P
C11 10P
R10 100
D2 HSM88AS
R12 68
C13 5P
R11 220
R13 100
RF OUT
T3
C14 1000P
R14 8200
L4
Q1 2SC3130
C15 27P
L3
L2
C16 1.5P
C18 14P
C19 1.4P
C20 VC
R15 8200
R16 560
C17 2P
UO-1

3-37. RF CONVERTER SCHEMATIC DIAGRAM (ENC17959: NV-L20EE)


IC1
LA7051
VIDEO IN 2
AUDIO IN 4
NC 3
+B 5
BS 6
C1 22P
R1 1200
C2 50V2.2
R2 470K
R3 82K
C3 1000P
C4 560P
C5 50V1
R5 1000
R4 8200
R6 120
D1 MA1075
C6 2200P
C7 56P
C8 100P
T2
C10 2200P
R8 2700
C12 7P
L1 82μ
R9 1500
T1
R7 1KB
C9 100P
C11 8P
R10 100
D2 HSM88AS
R12 27
C13 5P
R11 220
R13 150
RF OUT
T3
C14 1000P
R14 8200
L4
Q1 2SC3130
C15 27P
L3
L2
C16 1.5P
C18 14P
C19 1.4P
C20 VC
R15 8200
R16 560
C17 2P
UO-1

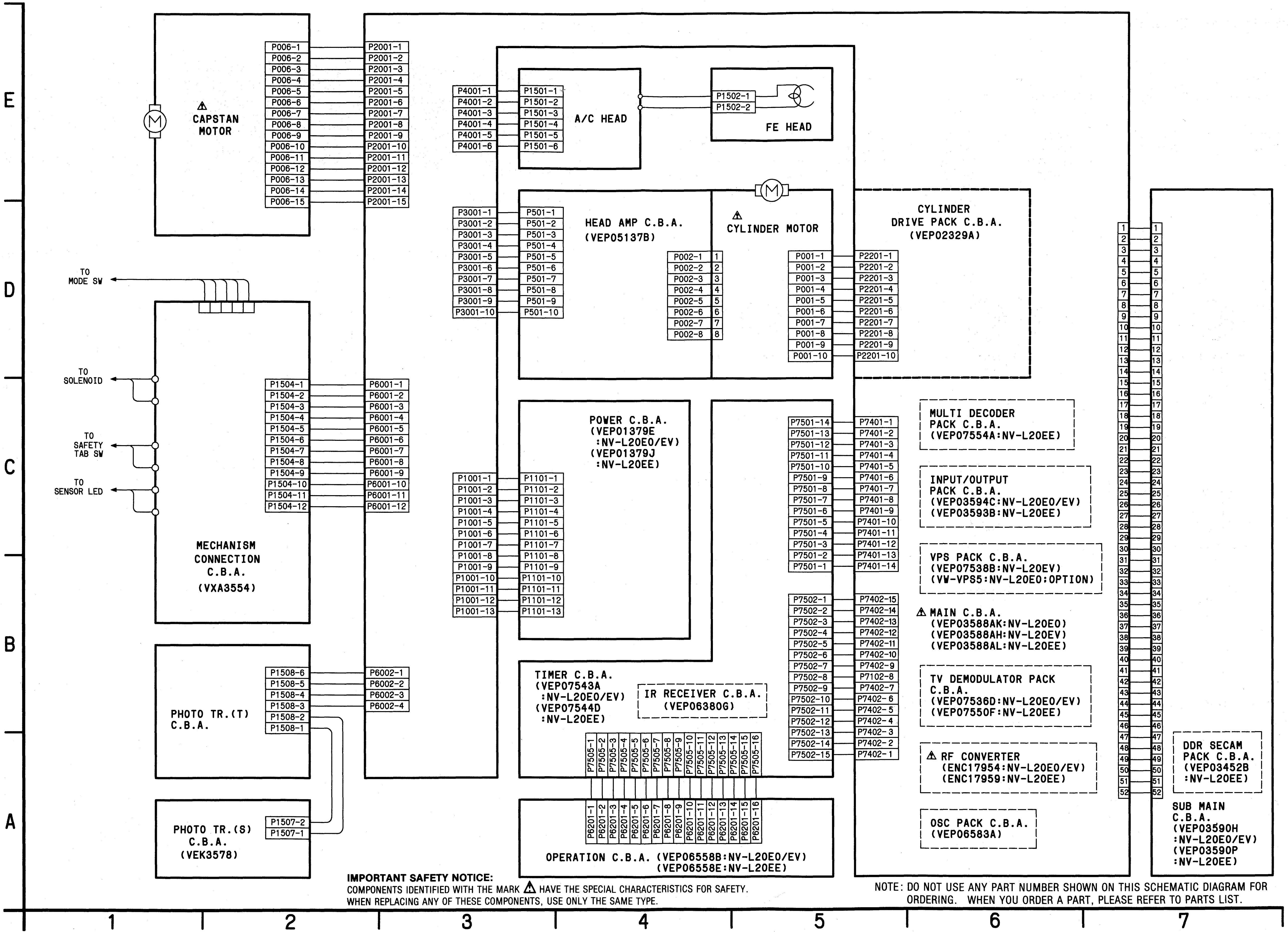
3-38. INTERCONNECTION SCHEMATIC DIAGRAM


E
D
C
B
A
1
2
3
4
CAPSTAN MOTOR
P006-1 … P006-15
P2001-1 … P2001-15
A/C HEAD
P4001-1 … P4001-6
P1501-1 … P1501-6
HEAD AMP C.B.A. (VEP05137B)
P3001-1 … P3001-10
P501-1 … P501-10
P002-1 … P002-8
TO MODE SW
TO SOLENOID
TO SAFETY TAB SW
TO SENSOR LED
MECHANISM CONNECTION C.B.A. (VXA3554)
P1504-1 … P1504-12
P6001-1 … P6001-12
POWER C.B.A. (VEP01379E :NV-L20EO/EV) (VEP01379J :NV-L20EE)
P1001-1 … P1001-13
P1101-1 … P1101-13
PHOTO TR.(T) C.B.A.
P1508-6
P1508-5
P1508-4
P1508-3
P1508-2
P1508-1
P6002-1 … P6002-4
PHOTO TR.(S) C.B.A. (VEK3578)
P1507-2
P1507-1
TIMER C.B.A. (VEP07543A :NV-L20EO/EV) (VEP07544D :NV-L20EE)
IR RECEIVER C. (VEP06380G)
P7505-1 … P7505-13
P6201-1 … P6201-13
OPERATION C.B.A. (VEP06558B:N (VEP06558E:N

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFE
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

3-38. INTERCONNECTION SCHEMATIC DIAGRAM

R12 68
R11 220
R13 100
RF OUT
C19 1.4P
C20 VC
UO-1
R12 27
R11 220
R13 150



E
D
C
B
A
1
2
3
4
5
6
7
CAPSTAN MOTOR
P006-1 … P006-15
P2001-1 … P2001-15
TO MODE SW
TO SOLENOID
TO SAFETY TAB SW
TO SENSOR LED
MECHANISM CONNECTION C.B.A. (VXA3554)
P1504-1 … P1504-12
P6001-1 … P6001-12
PHOTO TR.(T) C.B.A.
P1508-6 … P1508-1
P6002-1 … P6002-4
PHOTO TR.(S) C.B.A. (VEK3578)
P1507-2
P1507-1
P4001-1 … P4001-6
P1501-1 … P1501-6
A/C HEAD
P1502-1
P1502-2
FE HEAD
P3001-1 … P3001-10
P501-1 … P501-10
HEAD AMP C.B.A. (VEP05137B)
P002-1 … P002-8
CYLINDER MOTOR
P001-1 … P001-10
P2201-1 … P2201-10
CYLINDER DRIVE PACK C.B.A. (VEP02329A)
P1001-1 … P1001-13
P1101-1 … P1101-13
POWER C.B.A. (VEP01379E :NV-L20EO/EV) (VEP01379J :NV-L20EE)
P7501-14 … P7501-1
P7401-1 … P7401-14
P7502-1 … P7502-15
P7402-15 … P7402-1
TIMER C.B.A. (VEP07543A :NV-L20EO/EV) (VEP07544D :NV-L20EE)
IR RECEIVER C.B.A. (VEP06380G)
P7505-1 … P7505-16
P6201-1 … P6201-16
OPERATION C.B.A. (VEP06558B:NV-L20EO/EV) (VEP06558E:NV-L20EE)
MULTI DECODER PACK C.B.A. (VEP07554A:NV-L20EE)
INPUT/OUTPUT PACK C.B.A. (VEP03594C:NV-L20EO/EV) (VEP03593B:NV-L20EE)
VPS PACK C.B.A. (VEP07538B:NV-L20EV) (VW-VPS5:NV-L20EO:OPTION)
MAIN C.B.A. (VEP03588AK:NV-L20EO) (VEP03588AH:NV-L20EV) (VEP03588AL:NV-L20EE)
TV DEMODULATOR PACK C.B.A. (VEP07536D:NV-L20EO/EV) (VEP07550F:NV-L20EE)
RF CONVERTER (ENC17954:NV-L20EO/EV) (ENC17959:NV-L20EE)
OSC PACK C.B.A. (VEP06583A)
1 … 52
DDR SECAM PACK C.B.A. (VEP03452B :NV-L20EE)
SUB MAIN C.B.A. (VEP03590H :NV-L20EO/EV) (VEP03590P :NV-L20EE)

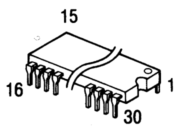
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

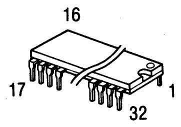
Next Page:
ICs & TRs INFORMATION Section

3-39. ICs & TRs INFORMATION

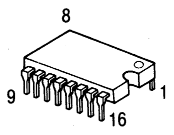
GENERAL CIRCUIT PARTS



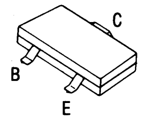
AN3495K
M51366SP



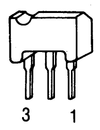
BA7274S
BA7766AS



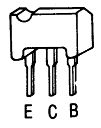
AN5043
MN1226
µPC1167C2
MN12261



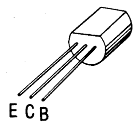
2SB709
2SB710
2SC2295
2SD1328
2SD601
2SD602



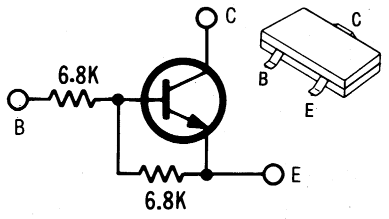
MN1280L
MN1280T
MN1280S



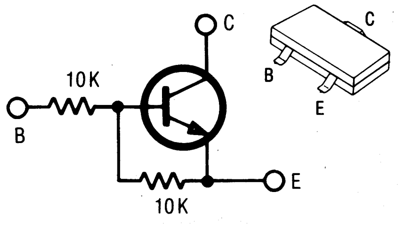
2SB643
2SD1330
2SD637
2SD638
2SD973
2SC2206
2SC2377



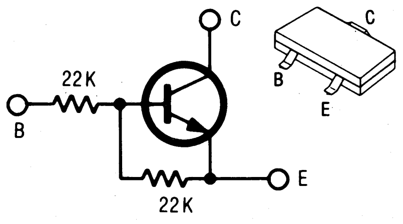
2SD893
2SC1047


C
6.8K
B
E
6.8K
C
B
E

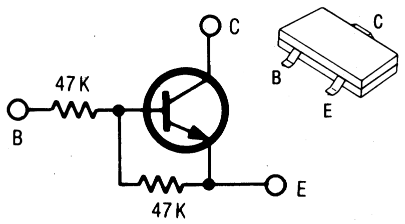
DTC363EK


C
10K
B
E
10K
C
B
E

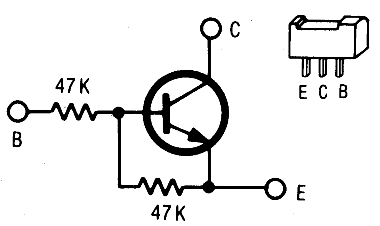
UN2211
DTC114EK


C
22K
B
E
22K
C
B
E

UN2212
DTC124EK

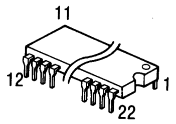

C
47K
B
E
47K
C
B
E

UN2213
DTC144EK


C
47K
B
E
47K
E C B

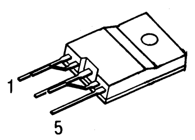
DTC144EA
UN1213

INPUT/OUTPUT PACK

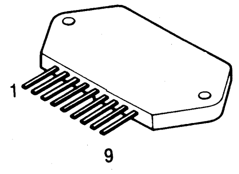


LA7150

POWER & POWER SUPPLY Section

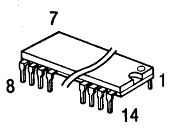


STRD1816



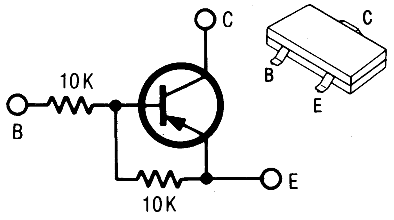
STK5392

MULTI DECODER PACK



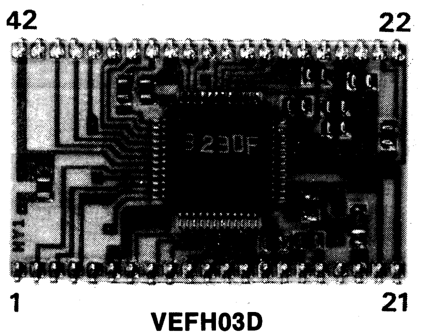
µPD4066BC

LUMINANCE & CHROMINANCE Section

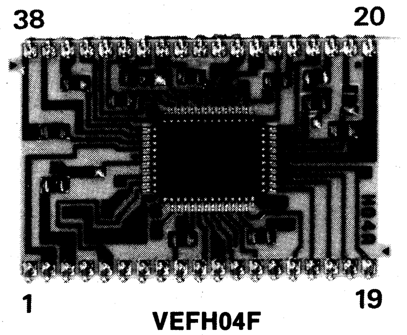

C
10K
B
E
10K
C
B
E

UN2111
DTA114EK

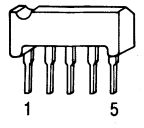
SUB MAIN



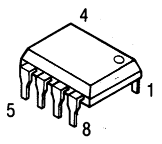
VEFH03D



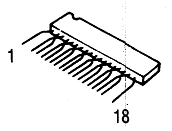
VEFH04F



BA7004

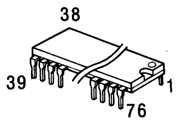


MSM6965-3RS

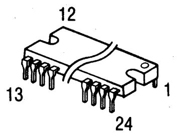


BA7025L

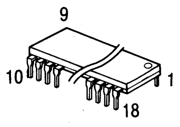
SERVO & SYSTEM CONTROL Section



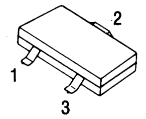
MN6740VCTK



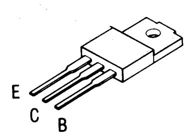
BA6435S



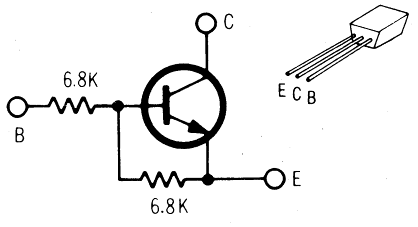
AN3814K



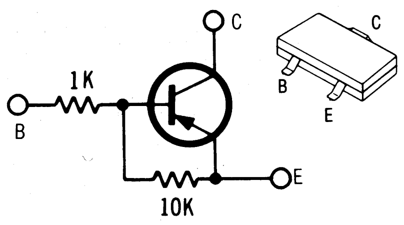
MN12821R



2SD1273

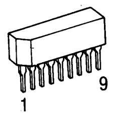

C
6.8K
B
E
6.8K
E C B

2SD1676

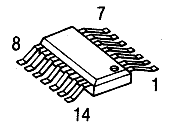

C
1K
B
E
10K
C
B
E

UN2119
DTA113ZK

TV DEMODULATOR PACK

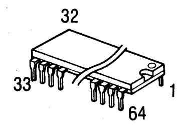


AN5421N

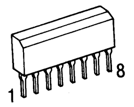


MN4066BS

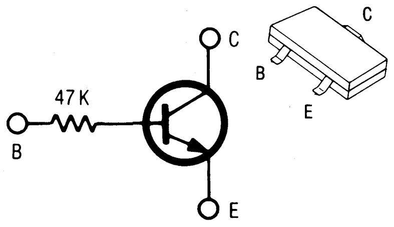
TIMER



M37422V4AF
MN187125VHP

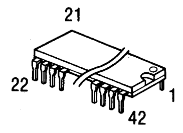


µPC1490HA

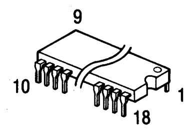


UN2216
DTC143TK

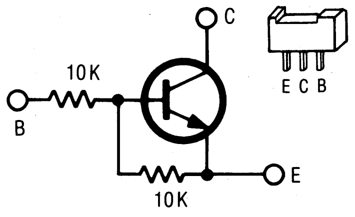
VPS PACK



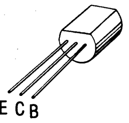
MN158413VHW



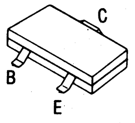
SAA4700


C
10K
B
E
10K
E C B

DTC114EA
UN1211

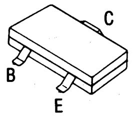


2SD893
2SC1047

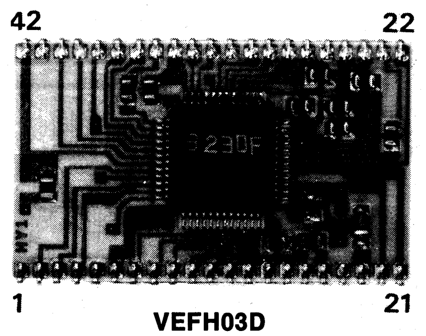


T PACK

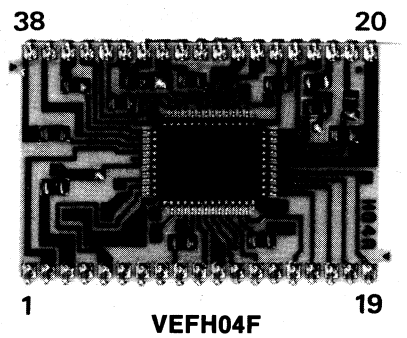
Section



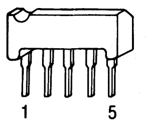
SUB MAIN



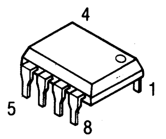
VEFH03D



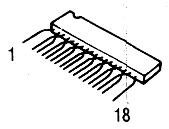
VEFH04F



BA7004

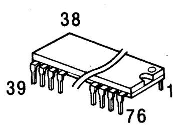


MSM6965-3RS

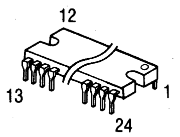


BA7025L

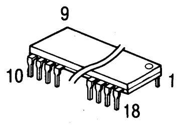
SERVO & SYSTEM CONTROL Section



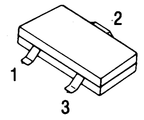
MN6740VCTK



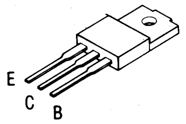
BA6435S



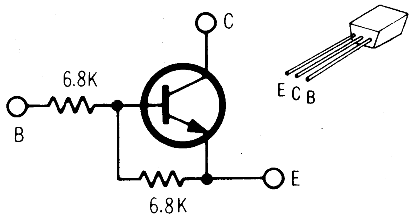
AN3814K



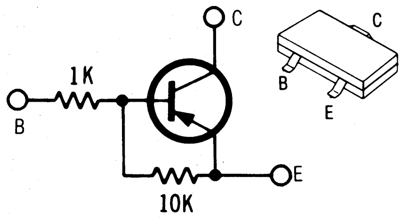
MN12821R



2SD1273

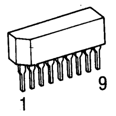

C
6.8K
B
E
6.8K
E C B

2SD1676

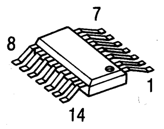

C
1K
B
E
10K
C
B
E

UN2119
DTA113ZK

TV DEMODULATOR PACK

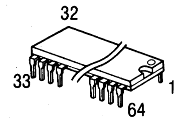


AN5421N

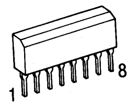


MN4066BS

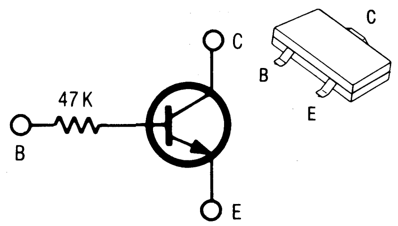
TIMER



M37422V4AF
MN187125VHP

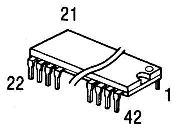


µPC1490HA

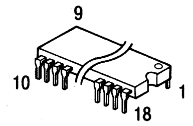


UN2216
DTC143TK

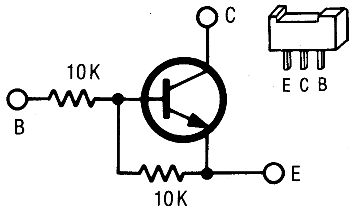
VPS PACK



MN158413VHW



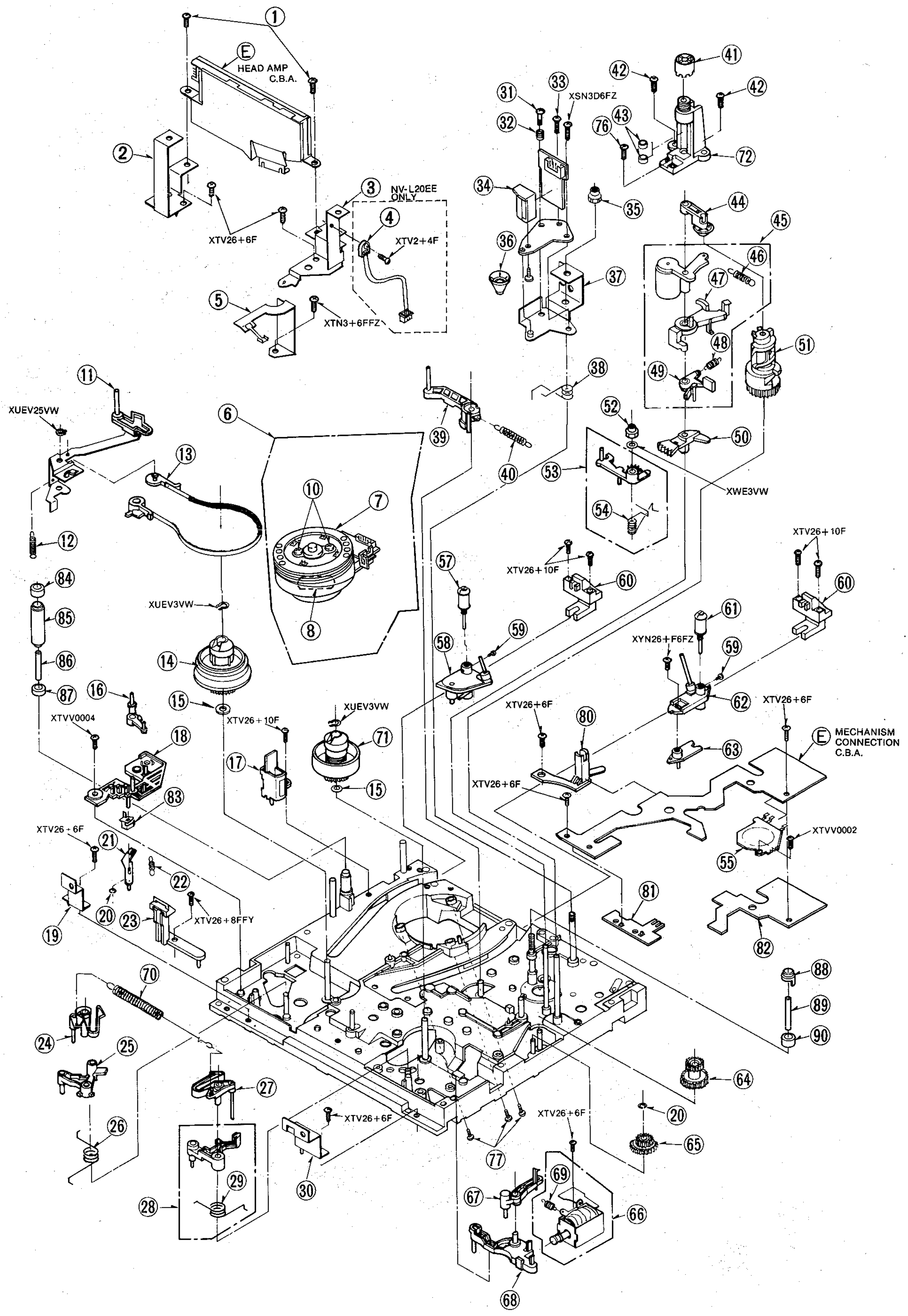
SAA4700


C
10K
B
E
10K
E C B

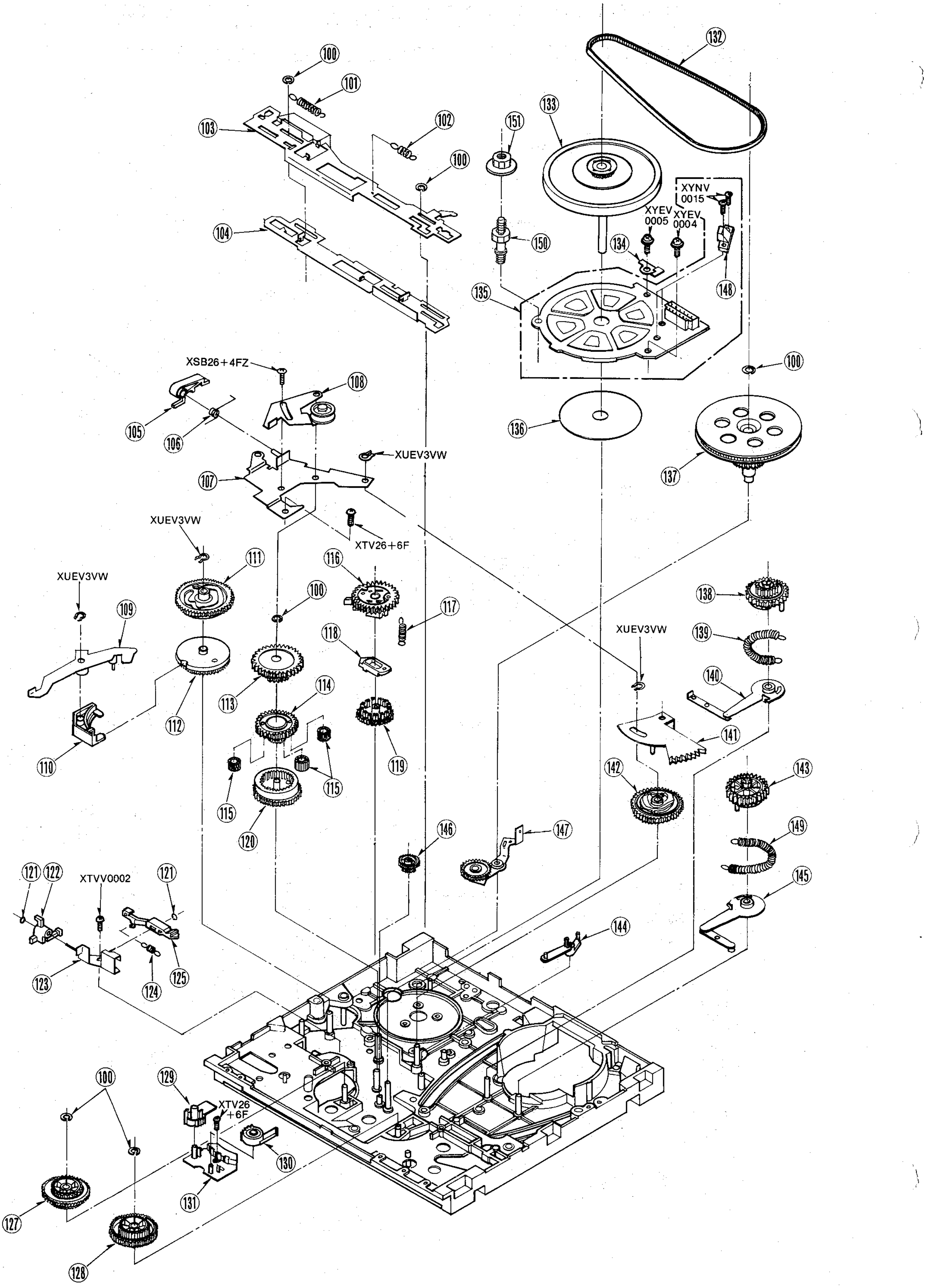
DTC114EA
UN1211

Memo

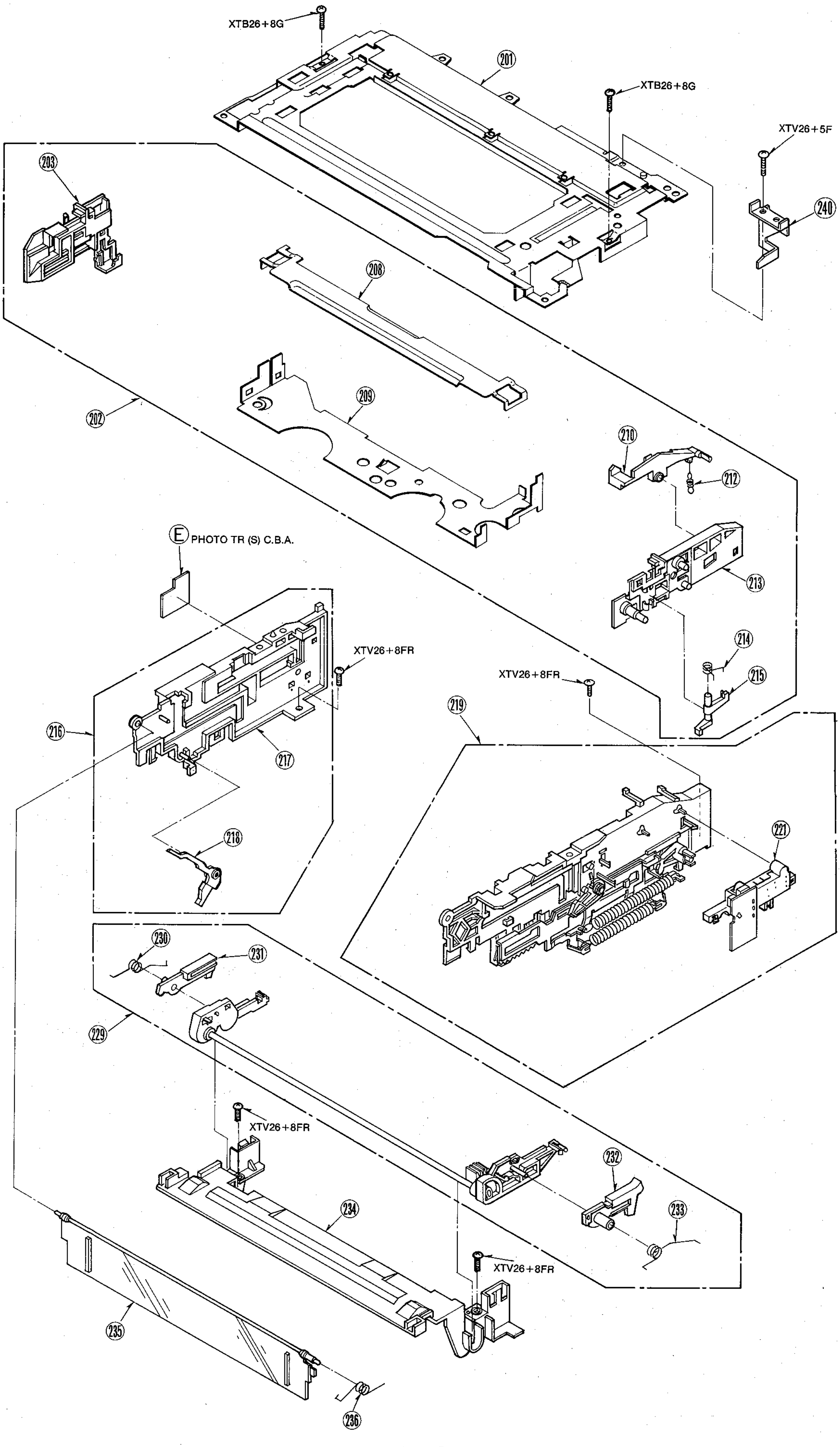
SECTION 4
EXPLODED VIEWS & PARTS LIST
4-1. EXPLODED VIEW ❶ CHASSIS PARTS SECTION (1)


①
Ⓔ HEAD AMP C.B.A.
②
XTV26+6F
③ NV-L20EE ONLY
④
XTV2+4F
⑤
XTN3+6FFZ
㉛
㉜
㉝ XSN3D6FZ
㉞
㉟
㊱
㊲
㊶
㊷
㊸
(76)
(72)
㊹
㊺
㊻
㊼
㊽
㊾
(51)
㊳
(52)
㊿
(53)
XWE3VW
(54)
⑪
XUEV25VW
⑥
㊴
㊵
⑬
⑩
⑦
⑧
⑫
(84)
(85)
(86)
(87)
XUEV3VW
⑭
(57)
XTV26+10F
(60)
(58)
(59)
(61)
XYN26+F6FZ
XTV26+10F
(60)
(59)
(62)
XTV26+6F
⑯
⑮
XUEV3VW
(71)
XTVV0004
XTV26+10F
⑱
⑰
(83)
⑮
XTV26+6F
(80)
XTV26+6F
(63)
Ⓔ MECHANISM CONNECTION C.B.A.
XTVV0002
(55)
XTV26+6F
㉑
㉒
⑳
㉓
XTV26+8FFY
⑲
(81)
(82)
(70)
(88)
(89)
(90)
㉔
㉕
㉗
(64)
XTV26+6F
⑳
㉖
(65)
XTV26+6F
(77)
㉚
㉙
㉘
(69)
(67)
(66)
(68)

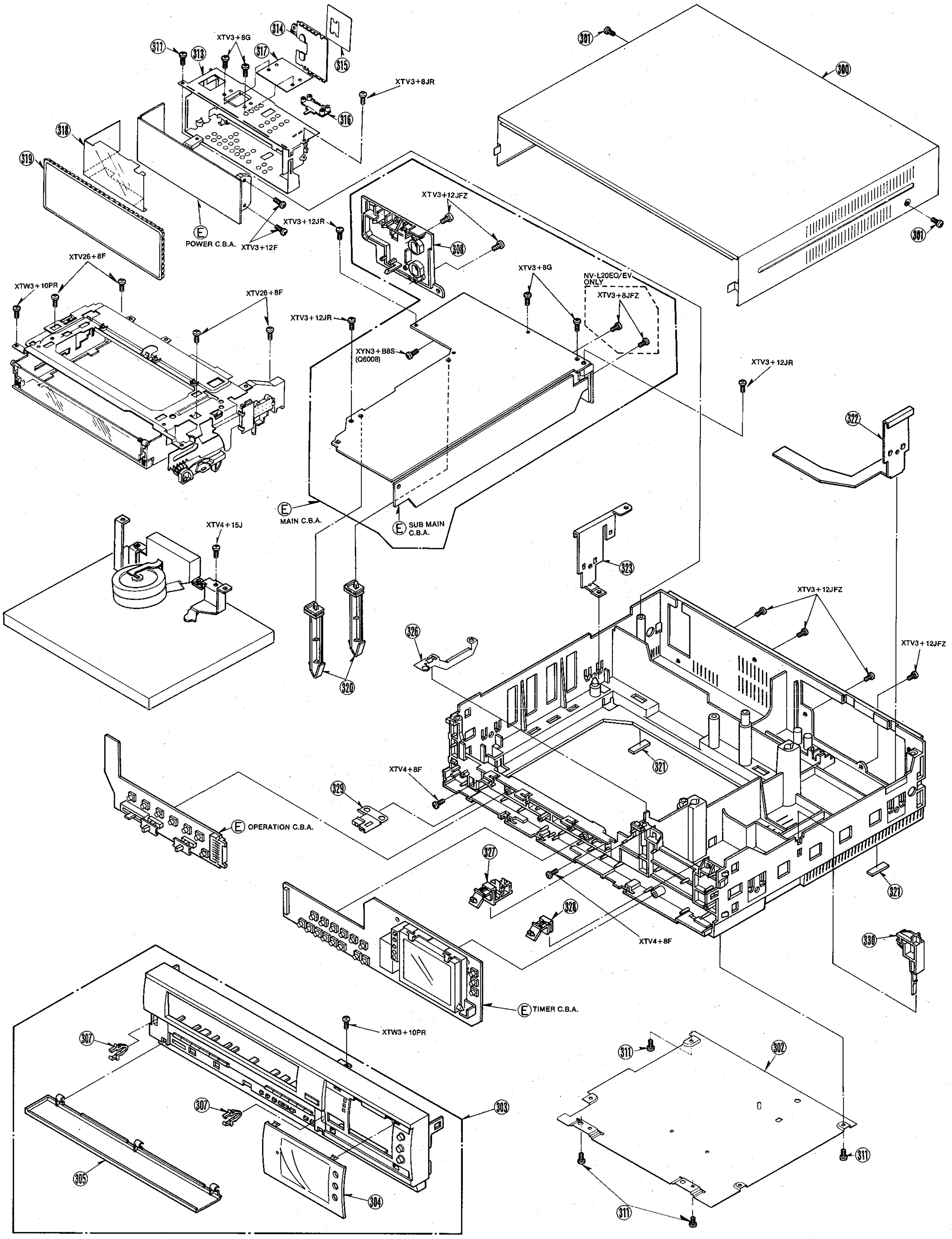
❷ CHASSIS PARTS SECTION (2)


100
101
102
103
100
104
151
133
132
XYNV 0015
XYEV 0005
XYEV 0004
150
134
148
135
100
XSB26+4FZ
108
105
106
XUEV3VW
136
137
107
XTV26+6F
XUEV3VW
111
116
100
117
XUEV3VW
109
118
138
XUEV3VW
139
112
113
114
119
140
141
110
115
115
120
142
143
146
147
149
121
122
XTVV0002
121
145
144
123
124
125
100
129
XTV26 +6F
130
131
127
128

❸ CASSETTE UP MECHANISM SECTION

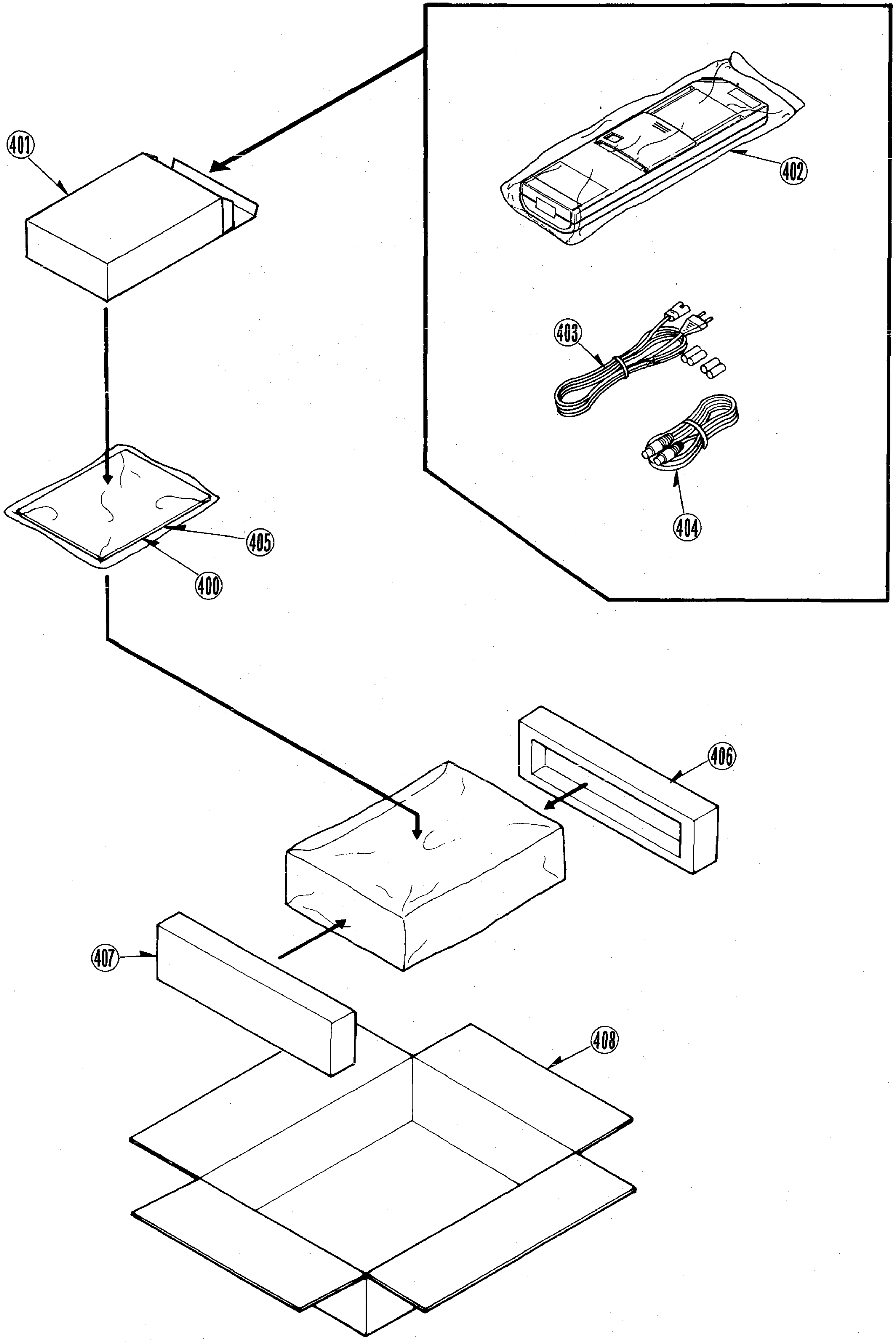

XTB26+8G
201
XTB26+8G
XTV26+5F
240
203
208
209
202
210
212
213
214
215
E PHOTO TR (S) C.B.A.
XTV26+8FR
XTV26+8FR
219
216
217
218
221
230
231
229
XTV26+8FR
232
234
233
XTV26+8FR
235
236

❹ CASING PARTS SECTION

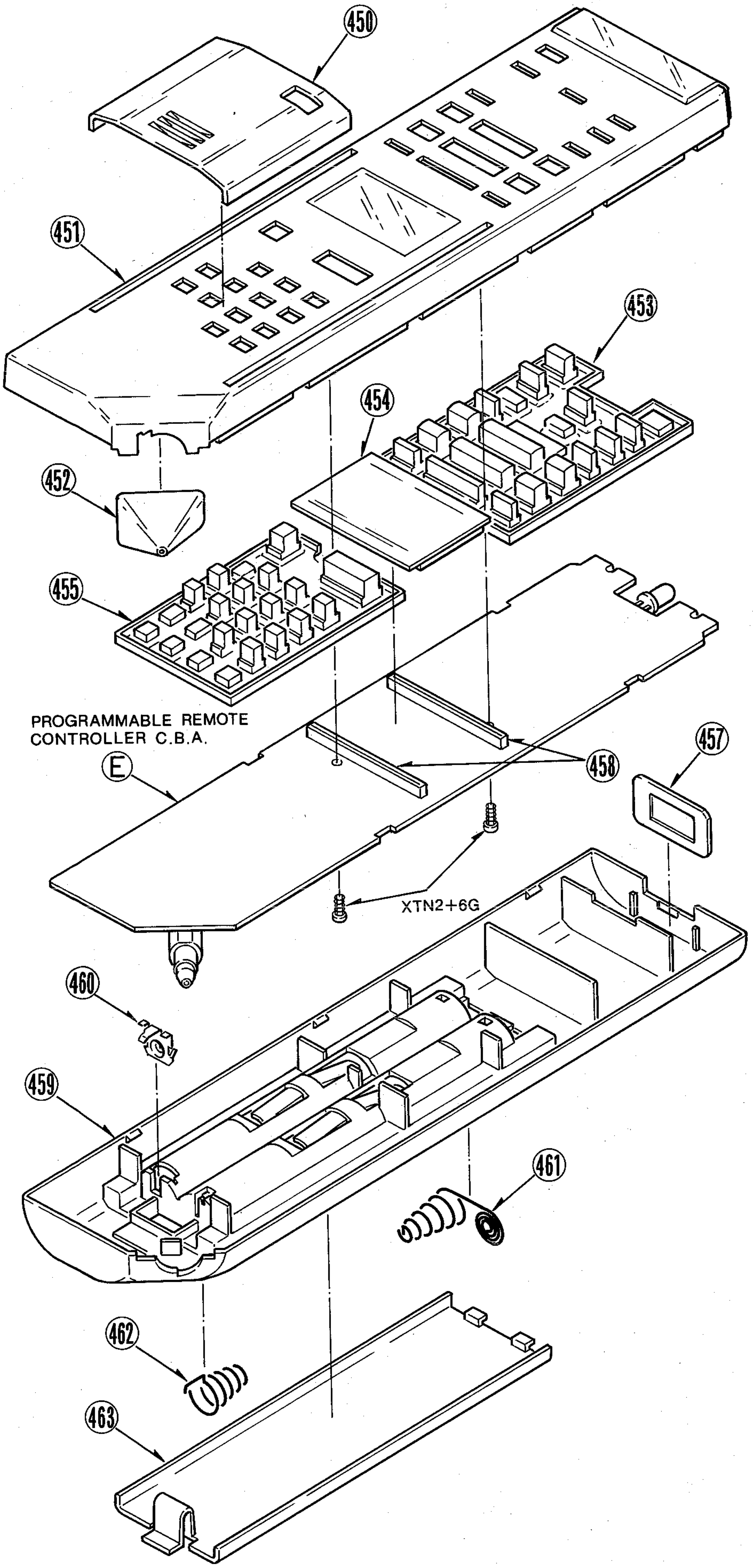


311
313
XTV3+8G
317
314
315
XTV3+8JR
316
301
300
318
319
Ⓔ POWER C.B.A.
XTV3+12F
XTV3+12JR
XTV3+12JFZ
308
301
XTV26+8F
XTW3+10PR
XTV26+8F
XTV3+8G
NV-L20EO/EV ONLY
XTV3+8JFZ
XTV3+12JR
XYN3+B8S (Q6008)
XTV3+12JR
322
Ⓔ MAIN C.B.A.
Ⓔ SUB MAIN C.B.A.
XTV4+15J
323
XTV3+12JFZ
326
XTV3+12JFZ
320
321
XTV4+8F
329
Ⓔ OPERATION C.B.A.
327
321
328
XTV4+8F
330
Ⓔ TIMER C.B.A.
XTW3+10PR
307
311
302
307
303
311
305
304
311

❺ PACKING PARTS SECTION


401
402
403
404
405
400
406
407
408

❻ REMOTE CONTROLLER (BUILD IN DIGITAL SCANNER) UNIT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PROGRAMMABLE REMOTE CONTROLLER C.B.A.
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XTN2+6G
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ORDER NO. VRD8902M104
(Date of issue: FEB., 1989)

PARTS LIST

MODEL NO.: NV-L20EE/EO/EV, VW-VPS5

1. NV-L20EE/EO/EV Mechanical Replacement Parts List

*This parts list is detachable from the manual.

Note:1.* Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
1(1)		VHD0141	HEAD AMP SET SCREW	2	
2(1)		VMA6897	HEAD AMP MOUNT ANGLE (L)	1	
3(1)		VMA6898	HEAD AMP MOUNT ANGLE (R)	1	
4(1)		VEK3185	DEW SENSOR UNIT	1	NV-L20EE
5(1)		VXS0082	EARTH PLATE UNIT	1	
6(1)		VEG0726	CYLINDER UNIT	1	<!>
7(1)		VEH0416	UPPER CYLINDER UNIT	1	<!>
8(1)		VJR0082	RT TERMINAL	1	
10(1)		VHD0425	UPPER CYLINDER SET SCREW	2	
11(1)		VXL1495	TENSION ARM (1) UNIT	1	
12(1)		VMB1563	TENSION SPRING	1	
13(1)		VXZ0267	TENSION BAND UNIT	1	
14(1)		VXR0145	SUPPLY REEL TABLE UNIT	1	
15(1)		VMX1171	REEL WASHER (0.5mm)	2	
15(1)		VMX1239	REEL WASHER (0.3mm)	2	
15(1)		VMX1238	REEL WASHER (0.2mm)	2	
16(1)		VXL1496	TENSION RELEASE ARM(A)UNIT	1	
17(1)		VBS0038	FE HEAD	1	
18(1)		VXA2705	TENSION ARM BASE (1) UNIT	1	
19(1)		VMA6895	MOUNT ANGLE (L)	1	
20(1)		VMX1079	CUT WASHER	2	
21(1)		VXL1497	TENSION RELEASE ARM(B)UNIT	1	
22(1)		VMB1582	TENSION RELEASE SPRING	1	
23(1)		VES0489	SAFETY SW	1	
24(1)		VXZ0259	SUPPLY MAIN BRAKE UNIT	1	
25(1)		VXZ0274	SUPPLY SOFT BRAKE(1)UNIT	1	
26(1)		VMB1564	SUPPLY SOFT BRAKE SPRING	1	
27(1)		VXZ0262	TAKE UP MAIN BRAKE UNIT	1	
28(1)		VXZ0221	TAKE UP SOFT BRAKE UNIT	1	
29(1)		VMB1561	TAKE UP SOFT BRAKE SPRING	1	
30(1)		VMA6896	MOUNT ANGLE (R)	1	
31(1)		VHD0322	ADJUST SCREW	1	
32(1)		VMB1251	ADJUST SPRING	1	
33(1)		VHD0089B	AZIMUTH ADJUST SCREW	1	
34(1)		VBR0132	A/C HEAD	1	
35(1)		VHN0063	M4 NYLON NUT	1	
36(1)		VHN0110	ADJUST NUT	1	
37(1)		VMA7831	HEAD BASE	1	
38(1)		VMB1567	A/C HEAD SPRING	1	
39(1)		VXL1857	SUB LOADING ARM (1) UNIT	1	
40(1)		VMB1566	SUB POST SPRING	1	
41(1)		VXQ0006	THRUST SCREW UNIT	1	
42(1)		VHD0317	HOUSING SCREW	2	
43(1)		VMX1033	OIL SEAL	2	
44(1)		VMX1353	PINCH CAM CAP	1	
45(1)		VXL1858	PRESSURE ROLLER UNIT	1	
46(1)		VMB1941	PIN PRESSURE SPRING	1	
47(1)		VML2232	PINCH PRESSURE ARM	1	
48(1)		VMB1569	PINCH PRESSURE ARM RELEASE	1	
			SPRING		
49(1)		VML1874	PINCH LIFT ARM	1	
50(1)		VDG0597	P5 PULL OUT SECTOR GEAR	1	
51(1)		VDG0421	PINCH CAM	1	
52(1)		VHN0023	M3 NYLON NUT	1	
53(1)		VXL1485	P5 UNIT	1	
54(1)		VMB1554	P5 SPRING	1	
55(1)		VSS0175	MODE SW	1	
57(1)		VXP0863	ROLLER POST UNIT	1	
58(1)		VXA2729	INCLIND BASE (S)(1)UNIT	1	
59(1)		VHD0133	ROLLER POST SCREW	2	
60(1)		VMD0910	POST STOPPER	2	
61(1)		VXP0764A	ROLLER POST UNIT	1	
62(1)		VXA2686	INCLIND BASE(T)(1)UNIT	1	
63(1)		VXA2687	INCLIND ADJUST PLATE UNIT	1	
64(1)		VDG0483	PINCH SPEED DOWN GEAR	1	
65(1)		VDG0332	CONNECTION GEAR	1	
66(1)		VXA3735	SOLENOID UNIT	1	
67(1)		VXA2692	KICK ROD UNIT	1	
68(1)		VML1849	SOLENOID LEVER (1) UNIT	1	
69(1)		VMB1553	KICK ROD SPRING	1	
70(1)		VMB1958	MAIN BRAKE SPRING	1	
71(1)		VXR0146	TAKE UP REEL TABLE UNIT	1	
72(1)		VXD0101	HOUSING UNIT	1	
76(1)		VHD0374	HOUSING SCREW	1	
77(1)		VHD0342	CYLINDER SCREW	3	
80(1)		VMD0911	LED HOLDER	1	
81(1)		VMA7844	REINFORCEMENT PLATE (F)	1	
82(1)		VMA7845	REINFORCEMENT PLATE (R)	1	
83(1)		VMB1733	LEAF SPRING	1	
84(1)		VMX1088	SUPPLY UPPER LIMITER	1	
85(1)		VDP1072	SUPPLY ROLLER	1	
86(1)		VMX1581	P1 COLLAR	1	
87(1)		VMX1533	SUPPLY ROLLER LIMITER	1	
88(1)		VMX1544	P4 UPPER LIMITER	1	
89(1)		VMX1568	P4 SLEEVE	1	
90(1)		VMX1534	P4 LOWER LIMITER	1	
100(2)		VMX1079	CUT WASHER	5	
101(2)		VMB1583	TAKE UP SOFT BRAKE RELEASE	1	
			ARM SPRING		
102(2)		VMB1560	MAIN LEVER SPRING	1	
103(2)		VXA3509	MAIN LEVER (1) UNIT	1	
104(2)		VMM0215	SUB LEVER	1	
105(2)		VXL1873	SS BRAKE ARM UNIT	1	
106(2)		VMB1588	SS BRAKE SPRING	1	
107(2)		VXA3512	SS BRAKE BASE (1) UNIT	1	
108(2)		VXA3516	TENSION ROLLER UNIT	1	
109(2)		VXL1632	CAM FOLLOWER ARM UNIT	1	
110(2)		VML1861	DETENT ARM	1	
111(2)		VDG0574	MAIN CAM GEAR	1	
112(2)		VDG0343	SUB CAM GEAR	1	
113(2)		VDG0348	CENTRE GEAR	1	
114(2)		VDG0422	RETAINER GEAR	1	
115(2)		VDG0345	PLANET GEAR	3	
116(2)		VDG0547	CLUTCH DISK	1	
117(2)		VMB1558	CLUTCH SPRING	1	
118(2)		VDG0350	LOCK SLIDE GEAR	1	
119(2)		VDG0335	DRIVE DISK	1	
120(2)		VDG0342	RING GEAR	1	
121(2)		VMX0967	CUT WASHER	2	
122(2)		VML1859	CHANGE LEVER	1	
123(2)		VXA2672	RELEASE LEVER (1) UNIT	1	
124(2)		VMB1557	RELEASE SPRING	1	
125(2)		VML1860	RELEASE LEVER	1	
127(2)		VXP1002	TAKE UP REEL GEAR UNIT	1	
128(2)		VDG0445	SUPPLY REEL GEAR	1	
129(2)		VML1858	RETURN LEVER (R)	1	
130(2)		VML1857	RETURN LEVER (L)	1	
131(2)		VMD0913	STOPPER BASE	1	
132(2)		VDV0169	TIMING BELT	1	
133(2)		VXP0777	ROTOR UNIT	1	
134(2)		VMA7941	ROTOR STOPPER	1	
135(2)		VEK4105	STATOR UNIT	1	<!>
136(2)		VMA6847	SUB PLATE	1	
137(2)		VXP0917	CENTRE PULLEY UNIT	1	
138(2)		VDG0564	LOADING GEAR (T)	1	
139(2)		VMB1555	LOADING SPRING (T)	1	
140(2)		VXL1489	LOADING ARM (T)(1) UNIT	1	
141(2)		VXA3515	SECTOR GEAR UNIT	1	
142(2)		VDG0448	LOADING CAM GEAR	1	
143(2)		VDG0419	LOADING GEAR (S)	1	
144(2)		VML1855	PLAY CONTROL ARM	1	
145(2)		VXL1487	LOADING ARM (S)(1) UNIT	1	
146(2)		VDG0546	INTERMEDIATE GEAR	1	
147(2)		VXL1861	PLAY ARM UNIT	1	
148(2)		VBK0048	FG HEAD	1	
149(2)		VMB1746	LOADING SPRING(S)	1	
150(2)		VHD0431	STATOR SPACER SCREW	1	
151(2)		VHN0102	STATOR UNIT	1	
201(3)		VMA7223	TOP PLATE	1	
202(3)		VXA3765	CASSETTE HOLDER UNIT	1	
203(3)		VXA3766	HOLDER GUIDE (L) UNIT	1	
208(3)		VXA3494	HOLDER ANGLE UNIT	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
209(3)		VMA8036	CASSETTE HOLDER	1	
210(3)		VML1882	OPENER LEVER	1	
212(3)		VMB1584	OPENER LEVER SPRING	1	
213(3)		VMD1352	HOLDER GUIDE (R)	1	
214(3)		VMB1576	RELEASE SPRING	1	
215(3)		VML1881	RELEASE LEVER	1	
216(3)		VXA2676	SIDE PLATE (L) UNIT	1	
217(3)		VMD0917	SIDE PLATE (L)	1	
218(3)		VML1880	OPENER LEVER	1	
219(3)		VXA3495	SIDE PLATE (R) UNIT	1	
221(3)		VXA3498	SLIDE SW UNIT	1	
229(3)		VXP0987	MAIN SHAFT UNIT	1	
230(3)		VMB1836	SUB WIPER SPRING (L)	1	
231(3)		VML1878	SUB WIPER ARM (L)	1	
232(3)		VML1879	SUB WIPER ARM (R)	1	
233(3)		VMB1837	SUB WIPER SPRING (R)	1	
234(3)		VMA6900	CASSETTE GUIDE	1	
235(3)		VKF1212	BLINDER PANEL	1	
236(3)		VMB1258	BLINDER SPRING	1	
240(3)		VMA7224	CASSETTE HOLDER ANGLE	1	
300(4)		VYP2602	TOP PANEL UNIT	1	
301(4)		VHD0304	TOP PANEL SCREW	2	
302(4)		VKU0245	BOTTOM PLATE	1	
303(4)		VYP2624	FRONT PANEL UNIT	1	NV-L20EO/EV
303(4)		VYP2700	FRONT PANEL UNIT	1	NV-L20EE
304(4)		VKW1120	FRONT DISPLAY PLATE	1	
305(4)		VYF1348	FRONT DOOR UNIT	1	
307(4)		VGQ0550	DOOR LOCK PIECE	2	
308(4)		VEJ0797	ANT. TERMINAL PLATE	1	
311(4)		VHD0059	BOTTOM PLATE SCREW	4	
313(4)		VXA3635	POWER SHIELD CASE(MAIN)UNIT	1	
314(4)		VSC2351	POWER SHIELD COVER (TOP)	1	
315(4)		VGH1476	NAME PLATE	1	
316(4)		VGQ1377	IC. HOLDER	1	
317(4)		VMZ1224	INSULATION SHEET	1	
318(4)		VMZ1140	SW BARRIER(A)	1	
319(4)		VSC2237	POWER SHIELD COVER(BOTTOM)	1	
320(4)		VKC0357	MAIN HINGE	2	
321(4)		VKA0084	RUBBER FOOT	2	
322(4)		VMP1994	TOP HOLDER ANGLE (RR)	1	
323(4)		VMP1995	TOP HOLDER ANGLE (RL)	1	
326(4)		VMA7949	EARTH ANGLE	1	
327(4)		VKC0327	TIMER HINGE (A)	1	
328(4)		VKC0328	TIMER HINGE (B)	1	
329(4)		VMC0460	EARTH SPRING	1	
330(4)		VJF0707	MAIN C.B.A. HOLDER	1	
331(4)		VHD0141	MAIN SCREW	1	
400(5)		VQT3143	OPERATING INSTRUCTIONS	1	<!> NV-L20EO
			(SPANISH/DUTCH)		[SUPPLIED FROM M.B.V]
400(5)		VQT3144	OPERATING INSTRUCTIONS	1	<!> NV-L20EO
			(FINNISH/SWEDISH/DANISH)		[SUPPLIED FROM M.B.V]
400(5)		VQT3145	OPERATING INSTRUCTIONS	1	<!> NV-L20EE
			(ENGLISH/GERMAN)		
400(5)		VQT3146	OPERATING INSTRUCTIONS	1	<!> NV-L20EE
			(POLISH/RUSSIAN)		
400(5)		VQT3147	OPERATING INSTRUCTIONS	1	<!> NV-L20EO/EV
			(ENGLISH/GERMAN/FRENCH)		
400(5)		VQT3213	OPERATING INSTRUCTIONS	1	<!> NV-L20EV
			(ITALIAN)		
401(5)		VPK0825	ACCESSORIES BOX	1	
402(5)		VEQ0930	REMOTE CONTROL UNIT	1	NV-L20EO/EV
			(BUILD IN DIGITAL SCANNER)		
402(5)		VEQ0932	REMOTE CONTROL UNIT	1	NV-L20EE
			(BUILD IN DIGITAL SCANNER)		
403(5)		VJA0443	AC POWER CORD	1	<!> NV-L20EV
403(5)		VJA0449	AC POWER CORD	1	<!> NV-L20EE/EO
404(5)		VJA0376	DIN RF CABLE	1	
405(5)		VQC1315	PROGRAMME SHEET	1	NV-L20EO/EV
405(5)		VQC1316	PROGRAMME SHEET	1	NV-L20EE
406(5)		VPN2356	CUSHION (R)	1	
407(5)		VPN2357	CUSHION (L)	1	
408(5)		VPG4575	PACKING	1	NV-L20EE
408(5)		VPG4576	PACKING	1	NV-L20EO
					[SUPPLIED FROM M.B.V]
408(5)		VPG4677	PACKING	1	NV-L20EV

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
450(6)		VKF1201	SLIDING LID	1	
451(6)		VYK2457	TOP COVER UNIT	1	NV-L20EO/EV
451(6)		VYK2459	TOP COVER UNIT	1	NV-L20EE
452(6)		VGQ1640	SENSOR CAP	1	
453(6)		VSP0417	RUBBER CONTACT (A)	1	
454(6)		VSL0156	LCD	1	
455(6)		VSP0404	RUBBER CONTACT (B)	1	
457(6)		VKW0878	IR WINDOW	1	
458(6)		VMT0257	BASE RUBBER(LCD)	2	
459(6)		VKM1673	BOTTOM COVER	1	
460(6)		VJR0507	ELECTRODE(+)	1	
461(6)		VJR0497	ELECTRODE(COM.)	1	
462(6)		VJR0412	ELECTRODE(-)	1	
463(6)		VKF1202	BATTERY COVER	1	
			SERVICING FIXTURES & TOOLS		
		VFJ8125H3F	VHS ALIGNMENT TAPE	1	
		VFK0335	RETAINING RING REMOVER	1	(3mm/4mm)
		VFK0387	TENSION POST ADJUSTMENT	1	
			PLATE		
		VFK0191	POST ADJUSTMENT PLATE	1	
		VFK0190	REEL TABLE HEIGHT GAUGE	1	
		VFK0328	H-POSITION ADJUSTMENT	1	
			SCREWDRIVER		
		VFK0329	POST ADJUSTMENT SCREWDRIVER	1	
		VFK62	FAN TYPE TENSION GAUGE	1	
		VFK0326	HEX WRENCH SET	1	
		VFK0132	BACK TENSION METER	1	
		VFK0343	CHECK LIGHT	1	
		VFK0344	HEIGHT ADJUSTMENT JIG	1	
		VFK27	HEAD CLEANING STICK	1	
		MOR265	MORLYTONE GREASE	1	
		VFK0341	UPPER CYLINDER REMOVER	1	

2. NV-L20EE/EO/EV Electrical Replacement Parts List

Note:1.* Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.
3.Unless otherwise specified,
All resistors are in OHMS ,K=1,000 OHMS. All capacitors are in MICRO-FARADS(uf),P=uuF.
4.The P.C.Board units marked width'▮'show below the main assembled parts.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VEP03588AL	MAIN C.B.A.	1	NV-L20EE <!> (NLA)
			(SYSTEM CONTROL, SERVO,		INCLUDING THE
			LUMINANCE & CHROMINANCE,		SUB MAIN C.B.A.
			AUDIO, POWER, CH SELECT,		(VEP03590P),
			TUNER, TV DEMODULATOR)		SECAM PACK C.B.A.
					(VEP03452B),
					INPUT/OUTPUT PACK
					C.B.A.(VEP03593B),
					CYLINDER DRIVE PACK
					C.B.A.(VEP02329A),
					OSC PACK C.B.A.
					(VEP06583A),
					TV DEMODULATOR PACK
					C.B.A.(VEP07550F),
					MULTI DECODER PACK
					C.B.A.(VEP07554A).
		VEP03588AK	MAIN C.B.A.	1	NV-L20EO <!> (NLA)
			(SYSTEM CONTROL, SERVO,		[SUPPLIED FROM M.B.V]
			LUMINANCE & CHROMINANCE,		INCLUDING THE
			AUDIO, POWER, CH SELECT,		SUB MAIN C.B.A.
			TUNER, TV DEMODULATOR)		(VEP03590H),
					INPUT/OUTPUT PACK
					C.B.A.(VEP03594C),
					CYLINDER DRIVE PACK
					C.B.A.(VEP02329A),
					OSC PACK C.B.A.
					(VEP06583A),
					TV DEMODULATOR PACK
					C.B.A.(VEP07536D).
		VEP03588AH	MAIN C.B.A.	1	NV-L20EV <!> (NLA)
			(SYSTEM CONTROL, SERVO,		INCLUDING THE
			LUMINANCE & CHROMINANCE,		SUB MAIN C.B.A.
			AUDIO, POWER, CH SELECT,		(VEP03590H),
			TUNER, TV DEMODULATOR)		INPUT/OUTPUT PACK
					C.B.A.(VEP03594C),
					CYLINDER DRIVE PACK
					C.B.A.(VEP02329A),
					OSC PACK C.B.A.
					(VEP06583A),
					TV DEMODULATOR PACK
					C.B.A.(VEP07536D),
					VPS PACK C.B.A.
					(VEP07358B).
		VEP03590P	SUB MAIN C.B.A.	1	NV-L20EE (NLA)
					INCLUDING THE
					SECAM PACK C.B.A.
					(VEP03452B).
					INCUDED IN MAIN
					C.B.A.(VEP03588AL).
		VEP03590H	SUB MAIN C.B.A.	1	NV-L20EO/EV (NLA)
					INCUDED IN MAIN
					C.B.A.(VEP03588AK/
					VEP03588AH).
		VEP03452B	SECAM PACK C.B.A.	1	NV-L20EE (NLA)
					INCLUDED IN MAIN
					C.B.A.(VEP03588AL).
		VEP03593B	INPUT/OUTPUT PACK C.B.A.	1	NV-L20EE (NLA)
					INCLUDED IN MAIN
					C.B.A.(VEP03588AL).
		VEP03594C	INPUT/OUTPUT PACK C.B.A.	1	NV-L20EO/EV (NLA)
					INCLUDED IN MAIN
					C.B.A.(VEP03588AK/
					VEP03588AH).
		VEP02329A	CYLINDER DRIVE PACK C.B.A.	1	(NLA)
					INCLUDED IN MAIN
					C.B.A.(VEP03588AL/
					VEP03588AK/
					VEP03588AH).
		VEP06583A	OSC PACK C.B.A.	1	(NLA)
					INCLUDED IN MAIN
					C.B.A.(VEP03588AL/
					VEP03588AK/
					VEP03588AH).
		VEP07550F	TV DEMODULATOR PACK C.B.A.	1	NV-L20EE (NLA)
					INCLUDED IN MAIN
					C.B.A.(VEP03588AL).
		VEP07536D	TV DEMODULATOR PACK C.B.A.	1	NV-L20EO/EV (NLA)
					INCLUDED IN MAIN
					C.B.A.(VEP03588AK/
					VEP03588AH).
		VEP07554A	MULTI DECODER PACK C.B.A.	1	NV-L20EE (NLA)
					INCLUDED IN MAIN
					C.B.A.(VEP03588AL).
		VEP05137B	HEAD AMP C.B.A.	1	(NLA)
		VEP07544D	TIMER C.B.A.	1	NV-L20EE (NLA)
					INCLUDING THE
					IR RECEIVER C.B.A.
					(VEP06380G).
		VEP07543A	TIMER C.B.A.	1	NV-L20EO/EV (NLA)
					INCLUDING THE
					IR RECEIVER C.B.A.
					(VEP06380G).
		VEP06380G	IR RECEIVER C.B.A.	1	(NLA)
					INCLUDED IN TIMER
					C.B.A.(VEP07544D/
					VEP07543A).
		VEP06558E	OPERATION C.B.A.	1	NV-L20EE (NLA)
		VEP06558B	OPERATION C.B.A.	1	NV-L20EO/EV (NLA)
		VEP01379J	POWER C.B.A.	1	NV-L20EE <!> (NLA)
		VEP01379E	POWER C.B.A.	1	NV-L20EO/EV <!> (NLA)

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VXA3554	MECHANISM CONNECTION C.B.A.	1	(NLA)
		VEK3578	SUPPLY PHOTO Tr. C.B.A.	1	(NLA)
			TAKE-UP PHOTO Tr. C.B.A.	1	
		VEP66079F	REMOTE CONTROL UNIT C.B.A.	1	NV-L20EE (NLA)
		VEP66079G	REMOTE CONTROL UNIT C.B.A.	1	NV-L20EO/EV (NLA)
		ENC17959	RF CONVERTER	1	NV-L20EE <!>
		ENC17954	RF CONVERTER	1	NV-L20EO/EV <!>
		ENV59815H3	TUNER	1	NV-L20EE <!>
		ENV57829H6	TUNER	1	NV-L20EO/EV <!>
	■	VEP03588AL	MAIN C.B.A.		NV-L20EE <!> (NLA)
			CAPACITORS		
C301		ECEA1EKN2R2	E.CAPACITOR 25V 2.2U	1	
C302		ECEA0JK220	E.CAPACITOR 6.3V 22U	1	
C303		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C304		ECEA0JU331	E.CAPACITOR 6.3V 330U	1	
C305		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C306		ECEA1EK4R7	E.CAPACITOR 25V 4.7U	1	
C307		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C308		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C310		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C311,12		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	2	
C313		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C314		ECUM1H121JCN	C.CAPACITOR CH 50V 120P	1	
C315		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C317		ECEA1AK470U	E.CAPACITOR 10V 47U	1	
C319		ECUM1H471KBN	C.CAPACITOR CH 50V 470P	1	
C320		ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C321		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C322		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	1	
C324		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C325,26		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C327,28		ECEA1CK100	E.CAPACITOR 16V 10U	2	
C329		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C331		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C332		ECQV1H334JZ	P.CAPACITOR 50V 0.33U	1	
C333		ECEA1HK4R7	E.CAPACITOR 50V 4.7U	1	
C334		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C335		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C336		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C337		ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C338		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C339		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C340		ECEA1EK4R7	E.CAPACITOR 25V 4.7U	1	
C349		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C351		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C352		ECQB1H562JH	P.CAPACITOR 50V 5600P	1	
C353		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C360		ECUM1H153ZFN	C.CAPACITOR CH 50V 0.015U	1	
C361		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C701		ECEA1EK4R7	E.CAPACITOR 25V 4.7U	1	
C702		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C703		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	1	
C705		ECEA1EK4R7	E.CAPACITOR 25V 4.7U	1	
C706		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C708		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C709		ECEA1EK4R7	E.CAPACITOR 25V 4.7U	1	
C710		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C715-20		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	6	
C721		ECEA1HKR27K	E.CAPACITOR 50V 0.27U	1	
C722		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C723		ECUM1H120JCN	C.CAPACITOR CH 50V 12P	1	
C725		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C728		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C730		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C731		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C732		ECQV1H224JZ	P.CAPACITOR 50V 0.22U	1	
C734		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C735		ECUM1H070DCN	C.CAPACITOR CH 50V 7P	1	
C736		ECQB1H103JH	P.CAPACITOR 50V 0.01U	1	
C737		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C739		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C740		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C741		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C742		ECUM1H030CCN	C.CAPACITOR CH 50V 3P	1	
C743		ECUM1H270JSN	C.CAPACITOR CH 50V 27P	1	
C744		ECEA1HKR47	E.CAPACITOR 50V 0.47U	1	
C745		ECUM1H680JPN	C.CAPACITOR CH 50V 68P	1	
C746		ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C748,49		ECEA1CK100	E.CAPACITOR 16V 10U	2	
C760		ECQV1H683JZ	P.CAPACITOR 50V 0.068U	1	
C771		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C772		ECUM1H820JRN	C.CAPACITOR CH 50V 82P	1	
C773,74		ECQB1H103JH	P.CAPACITOR 50V 0.01U	2	
C775		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C776		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C777		ECQB1H103JH	P.CAPACITOR 50V 0.01U	1	
C778		ECEA1CK470U	E.CAPACITOR 16V 47U	1	
C779		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C780		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C781		ECUM1H390JCN	C.CAPACITOR CH 50V 39P	1	
C782		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C783		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C784		ECEA1CK470U	E.CAPACITOR 16V 47U	1	
C785,86		ECEA1CK100	E.CAPACITOR 16V 10U	2	
C789		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	1	
C790		ECUM1H560JPN	C.CAPACITOR CH 50V 56P	1	
C791		ECQB1H153JH	P.CAPACITOR 50V 0.015U	1	
C792		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C794		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	1	
C795,96		ECEA1CK100	E.CAPACITOR 16V 10U	2	
C797-99		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	3	
C814		ECEA1AK101	E.CAPACITOR 10V 100U	1	
C815		ECQV1H154JZ	P.CAPACITOR 50V 0.15U	1	
C816		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C817		ECQV1H124JZ	P.CAPACITOR 50V 0.12U	1	
C818		ECUM1H471KBN	C.CAPACITOR CH 50V 470P	1	
C819		ECUM1H820JCN	C.CAPACITOR CH 50V 82P	1	
C820		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	1	
C821		ECEA1HFS4R7	E.CAPACITOR 50V 4.7U	1	
C823		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	1	
C824		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C825		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C826		ECEA1AU221	E.CAPACITOR 10V 220U	1	
C827		ECUM1H050DCN	C.CAPACITOR CH 50V 5P	1	
C828		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C829		ECQV1H474JZ	P.CAPACITOR 50V 0.47U	1	
C830		ECEA1EK4R7	E.CAPACITOR 25V 4.7U	1	
C831,32		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C833		ECUM1H471KBN	C.CAPACITOR CH 50V 470P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C851		ECKF1H103ZF	C.CAPACITOR 50V 0.01U	1	
C852		ECEA1CK330U	E.CAPACITOR 16V 33U	1	
C853		ECEA10Z47	E.CAPACITOR 10V 47U	1	
C854		ECQV1H563JZ	P.CAPACITOR 50V 0.056U	1	
C855		ECEA1CK330U	E.CAPACITOR 16V 33U	1	
C856		ECKF1H103ZF	C.CAPACITOR 50V 0.01U	1	
C858		ECKF1H681KB	C.CAPACITOR 50V 680P	1	
C1001		ECEA1EK470	E.CAPACITOR 25V 47U	1	
C1003		ECEA0JK101U	E.CAPACITOR 6.3V 100U	1	
C1004		ECEA1CK470U	E.CAPACITOR 16V 47U	1	
C2001		ECEA0JK221	E.CAPACITOR 6.3V 220U	1	
C2002		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C2003		ECQB1H472JH	P.CAPACITOR 50V 4700P	1	
C2004		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2005		ECQV1H394JZ	P.CAPACITOR 50V 0.39U	1	
C2006		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C2007		ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C2008		ECEA1HKN010	E.CAPACITOR 50V 1U	1	
C2009		ECEA1CKN100	E.CAPACITOR 16V 10U	1	
C2010		ECEA1HKR47	E.CAPACITOR 50V 0.47U	1	
C2011		ECUM1H562KBN	C.CAPACITOR CH 50V 5600P	1	
C2012		VCYD1E473KR	S.CAPACITOR 25V 0.047U	1	
C2013		ECEA1HK4R7	E.CAPACITOR 50V 4.7U	1	
C2014		ECEA0JK221	E.CAPACITOR 6.3V 220U	1	
C2015		ECEA0JK101U	E.CAPACITOR 6.3V 100U	1	
C2016		VCYD1E223KR	S.CAPACITOR 25V 0.022U	1	
C2017		ECEA0JK221	E.CAPACITOR 6.3V 220U	1	
C2018		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C2019		ECEA1HKN2R2	E.CAPACITOR 50V 2.2U	1	
C2020		VCYD1E473KR	S.CAPACITOR 25V 0.047U	1	
C2022		ECEA1HKN2R2	E.CAPACITOR 50V 2.2U	1	
C2024		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C2025		ECQV1H683JZ	P.CAPACITOR 50V 0.068U	1	
C2026		ECQV1H224JZ	P.CAPACITOR 50V 0.22U	1	
C2027		ECEA1HKR47	E.CAPACITOR 50V 0.47U	1	
C2028		ECQB1H333JH	P.CAPACITOR 50V 0.033U	1	
C2029		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C2030		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C2031		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C2033		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2034		ECEA0JK330	E.CAPACITOR 6.3V 33U	1	
C2050		ECEA0JK221	E.CAPACITOR 6.3V 220U	1	
C2101-03		ECQB1H333JH	P.CAPACITOR 50V 0.033U	3	
C2104-06		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	3	
C2107,08		VCYD1E333KR	S.CAPACITOR 25V 0.033U	2	
C2111		ECEA1CK101	E.CAPACITOR 16V 100U	1	
C2115		ECEA1CK470U	E.CAPACITOR 16V 47U	1	
C2116		ECEA1EU221	E.CAPACITOR 25V 220U	1	
C2118		VCYD1E333KR	S.CAPACITOR 25V 0.033U	1	
C2121		ECQV1H184JZ	P.CAPACITOR 50V 0.18U	1	
C2201		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C2203		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C2204-06		ECEA1HK0R1	E.CAPACITOR 50V 0.1U	3	
C2207		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C2208-10		ECEA1VKN4R7	E.CAPACITOR 35V 4.7U	3	
C2211		ECQB1H473JH	P.CAPACITOR 50V 0.047U	1	
C2212		ECEA0JK101U	E.CAPACITOR 6.3V 100U	1	
C2213		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C3001		ECEA1CK470U	E.CAPACITOR 16V 47U	1	
C3002		ECEA0JU471	E.CAPACITOR 6.3V 470U	1	
C3003,04		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3010		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C3011		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3012		ECUM1H681KBN	C.CAPACITOR CH 50V 680P	1	
C3013		ECEA1HKN010	E.CAPACITOR 50V 1U	1	
C3014		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3015		VCYD1E103KR	S.CAPACITOR 25V 0.01U	1	
C3016		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C3017,18		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3019		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3053		ECEA0JK101U	E.CAPACITOR 6.3V 100U	1	
C3064		ECQB1H103JH	P.CAPACITOR 50V 0.01U	1	
C3067,68		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3070		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3076		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C3081		ECEA1CK220	E.CAPACITOR 16V 22U	1	
C3101		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C3102		ECEA1CK470U	E.CAPACITOR 16V 47U	1	
C3103,04		ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	2	
C3105		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C4001		ECQB1H153JH	P.CAPACITOR 50V 0.015U	1	
C4002		ECEA16M33	E.CAPACITOR 16V 33U	1	
C4003		ECKF1H102ZF	C.CAPACITOR 50V 1000P	1	
C4004		ECQP1332JZ	P.CAPACITOR 100V 3300P	1	
C4005		ECCD2H121K	C.CAPACITOR 500V 120P	1	
C4006		ECEA1CK470U	E.CAPACITOR 16V 47U	1	
C4007		ECEA1CK330U	E.CAPACITOR 16V 33U	1	
C4008		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C4009		ECEA1EK4R7	E.CAPACITOR 25V 4.7U	1	
C4012		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C4013		ECUM1H681JN	C.CAPACITOR CH 50V 680P	1	
C4015		ECEA16M10	E.CAPACITOR 16V 10U	1	
C4016		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C4017		ECEA10M47	E.CAPACITOR 10V 47U	1	
C4018		ECQB1H822JH	P.CAPACITOR 50V 8200P	1	
C4019		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C4020		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C4021		ECEA1AK101	E.CAPACITOR 10V 100U	1	
C4022		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C4023		ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C4024,25		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	2	
C4026		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C4029		ECQB1H123JH	P.CAPACITOR 50V 0.012U	1	
C4033		ECQB1H102JH	P.CAPACITOR 50V 1000P	1	
C6001,02		ECEA0JK470	E.CAPACITOR 6.3V 47U	2	
C6005		ECEA1CK330U	E.CAPACITOR 16V 33U	1	
C6006		ECEA0JK330	E.CAPACITOR 6.3V 33U	1	
C6007		VCYD1C104MR1	S.CAPACITOR 16V 0.1U	1	
C6008		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6010		ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	1	
C6011,12		ECUM1H271JCN	C.CAPACITOR CH 50V 270P	2	
C6013		ECKF1H103ZF	C.CAPACITOR 50V 0.01U	1	
C6014		ECEA1CK220	E.CAPACITOR 16V 22U	1	
C6015		ECEA1CK330U	E.CAPACITOR 16V 33U	1	
C6021		ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	1	
C6022		ECKF1H103ZF	C.CAPACITOR 50V 0.01U	1	
C6025		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6028		ECKF1H332KB	C.CAPACITOR 50V 3300P	1	
C6029		ECKF1H103ZF	C.CAPACITOR 50V 0.01U	1	
C6101		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6102		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C6103		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C6104		ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C6105		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C6106		ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C7401		ECEA0JU221	E.CAPACITOR 6.3V 220U	1	
C7402		EECS5R5V473	E.CAPACITOR 5.5V 0.047	1	
C7404		ECKF1H223ZF	C.CAPACITOR 50V 0.022U	1	
C7409		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C7410		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7421		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7422		ECKF1H272KB	C.CAPACITOR 50V 2700P	1	
C7423		ECKF1H103ZF	C.CAPACITOR 50V 0.01U	1	
C7651		ECEA1CKN100	E.CAPACITOR 16V 10U	1	
C7653		ECQB1H392JH	P.CAPACITOR 50V 3900P	1	
C7654		ECQB1H103JH	P.CAPACITOR 50V 0.01U	1	
C7655,56		ECEA1HK010	E.CAPACITOR 50V 1U	2	
C7657		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7658		ECQP1562JZ	P.CAPACITOR 100V 5600P	1	
C7659		ECQB1H272JH	P.CAPACITOR 50V 2700P	1	
C7661		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C7662		ECQV1H683JZ	P.CAPACITOR 50V 0.068U	1	
C7663		ECQV1H823JZ	P.CAPACITOR 50V 0.082U	1	
C7664		ECQB1H273JH	P.CAPACITOR 50V 0.027U	1	
C7665,66		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C7667		ECEA1HKA100	E.CAPACITOR 50V 10U	1	
C7670,71		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C7673		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7675		ECEA1HKN010	E.CAPACITOR 50V 1U	1	
C7676,77		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C7678		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C7680		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C7681		ECKF1H1032F	C.CAPACITOR 50V 0.01U	1	
D301		MA4091M	DIODE	1	
D710		MA3100L	DIODE	1	
D713,14		MA151K	DIODE	2	
D715		MA3091	DIODE	1	
D716		MA28WA	DIODE	1	
D771		MA151WK	DIODE	1	
D772		MA165	DIODE	1	
D773		MA151K	DIODE	1	
D1001,02		MA165	DIODE	2	
D2003,04		MA165	DIODE	2	
D2007,08		MA165	DIODE	2	
D3001		MA165	DIODE	1	
D3009		MA165	DIODE	1	
D3101		MA165	DIODE	1	
D3102		MA27WA	DIODE	1	
D4003		MA165	DIODE	1	
D6001		MA4051	DIODE	1	
D6002-04		MA165	DIODE	3	
D6005		ERA15-01	DIODE	1	
D6006,07		MA165	DIODE	2	
D6008		MA723	DIODE	1	
D6009		MA4150L	DIODE	1	
D6021		MA723	DIODE	1	
D7401,02		MA723	DIODE	2	
DL802		EFDBR124A53T	DELAY	1	
FL301		ELB4M022	FILTER	1	
FL302		VLF0499	FILTER	1	
FL303		VLF0727	FILTER	1	
FL801		ELB4W002	FILTER	1	
FL851		VLF0143	FILTER	1	
FL3101		VLF0413	FILTER	1	
IC301		VEFH03D	HIC	1	
IC303		MSM6965-3RS	IC	1	
IC701		M51366SP	IC	1	
IC702		UPC1167C2	IC	1	
IC703		UPD4066BC	IC	1	
IC801		VEFH04F	IC	1	
IC851		BA7025L	IC	1	
IC2001		MN6740VCTK	IC	1	
IC2101		BA6435S	IC	1	
IC2201		AN3814K	IC	1	
IC3101		BA7004	IC	1	
IC4001		BA7766AS	IC	1	
IC6002		LM393PS	IC	1	
IC6003		MN12821R	IC	1	
IC7651		AN5421N	IC	1	
IC7652		AN5043	IC	1	
IC7653		MN4066BS	IC	1	
KR851		VJR0163	PACK PIN	1	
L301		VLQEL05F101K	COIL 100UH	1	
L302		VLQEL05F220K	COIL 22UH	1	
L303,04		VLQEL05F101K	COIL 100UH	2	
L306		VLQEL05F101K	COIL 100UH	1	
L307		VLQEL05F151K	COIL 150UH	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
L308		VLQEL05F270K	COIL 27UH	1	
L309,10		VLQEL05F101K	COIL 100UH	2	
L311		VLQEL05F2R2K	COIL 2.2UH	1	
L701,02		ELESP680KA	COIL 68UH	2	
L711		ELQT1R2KB	COIL 1.2UH	1	
L713		VLQ0305JR56	COIL 0.56UH	1	
L714		VLQ0305J1R2	COIL 1.2UH	1	
L715		VLQ0213K680	COIL 68UH	1	
L717,18		ELESP680KA	COIL 68UH	2	
L719		ELESP5R6KA	COIL 5.6UH	1	
L757		ELESP820KA	COIL 82UH	1	
L781		ELESP680KA	COIL 68UH	1	
L804		VLQ0213K150	COIL 15UH	1	
L805		VLQEL05F101K	COIL 100UH	1	
L806		VLQEL05F681K	COIL 680UH	1	
L808		VLQEL05F470K	COIL 47UH	1	
L809		VLQEL05F331K	COIL 330UH	1	
L810		VLQEL05F101K	COIL 100UH	1	
L811		VLQEL05F470K	COIL 47UH	1	
L812		VLQEL05F681K	COIL 680UH	1	
L851		VLQEL05F101K	COIL 100UH	1	
L2002		VLP0074	COIL	1	
L2003		VLQEL05F101K	COIL 100UH	1	
L2101		VLQEL05F102K	COIL 1000UH	1	
L3001-03		VLQEL05F101K	COIL 100UH	3	
L3005		VLQEL05F120K	COIL 12UH	1	
L3006		VLQEL05F6R8K	COIL 6.8UH	1	
L3007		VLQEL05F101K	COIL 100UH	1	
L3008		VLQEL05F3R3K	COIL 3.3UH	1	
L3101		VLQEL05F101K	COIL 100UH	1	
L4001		VLQEL07F822J	COIL 8200UH	1	
L4002		VLQEL05F471K	COIL 470UH	1	
L6101		VLQEL05F101K	COIL 100UH	1	
L7401		VLQEL05F1R0K	COIL 1UH	1	
L7402		VLQEL05F101K	COIL 100UH	1	
L7404		VLQEL05F1R0K	COIL 1UH	1	
P001		VJS1237T	CONNECTOR	1	
P006		VJS1902	CONNECTOR (FEMALE)	1	
P501		VJS1237T	CONNECTOR	1	
P1001		VJF0171T	CONNECTOR	1	
P1001		VJP1393T	CONNECTOR (MALE) 13P	1	
P1101		VJF0171T	CONNECTOR	1	
P2001		VJP1932T	CONNECTOR (MALE)	1	
P2001		VJS1932T	CONNECTOR (FEMALE)	1	
P2201		VJP1237T	CONNECTOR (MALE) 10P	1	
P2201		VJS1237T	CONNECTOR	1	
P3001		VJP1237T	CONNECTOR (MALE) 10P	1	
P3001		VJS1237T	CONNECTOR	1	
P4001		VJP2622	CONNECTOR (MALE)	1	
P6001		VJS2571A012	CONNECTOR	1	
P6002		VJS2571A004	CONNECTOR	1	
P7401		VJS1662	CONNECTOR (FEMALE)	1	
P7402		VJS2571A015	CONNECTOR (FEMALE)	1	
PK701		VJR0231	PACK PIN	1	
PK702,03		VJR0406	PACK PIN	2	
PK704		VJR0231	PACK PIN	1	
PK2201		VJR0452	PACK PIN	1	
PK2202		VJR0348	PACK PIN	1	
PK3901		VJR0348	PACK PIN	1	
PK3902		VJR0523	PACK PIN	1	
PK3903		VJR0348	PACK PIN	1	
PK3904		VJR0416	PACK PIN	1	
PK6101		VJR0277	PACK PIN	1	
Q301		2SB709	TRANSISTOR CHIP	1	(Q,R,S)
Q302,03		2SC2295	TRANSISTOR CHIP	2	(B,C)
Q304		2SD601	TRANSISTOR CHIP	1	(Q,R,S)

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
Q703		2SD601	TRANSISTOR	1	(S,T)
Q710		2SC1047	TRANSISTOR	1	(C)
Q712		2SD638	TRANSISTOR	1	
Q713		2SD1328	TRANSISTOR	1	
Q715,16		2SD601	TRANSISTOR CHIP	2	(S,T)
Q722		2SD1328	TRANSISTOR	1	
Q771		2SD601	TRANSISTOR	1	(S,T)
Q772		2SD601	TRANSISTOR CHIP	1	(S,T)
Q804		2SB709	TRANSISTOR CHIP	1	(Q,R,S)
Q2001		2SD601	TRANSISTOR CHIP	1	(Q,R,S)
Q2002		2SD1330	TRANSISTOR	1	(S,T)
Q3001		2SC2295	TRANSISTOR	1	
Q3003		2SD601	TRANSISTOR CHIP	1	
Q3004		2SB709	TRANSISTOR CHIP	1	(Q,R,S)
Q3006		2SC2295	TRANSISTOR	1	
Q3007		2SB709	TRANSISTOR CHIP	1	(Q,R,S)
Q3101		2SD601	TRANSISTOR CHIP	1	
Q4001		2SD602	TRANSISTOR	1	(R)
Q6001		2SD893	TRANSISTOR	1	
Q6002,03		2SD973	TRANSISTOR	2	(S)
Q6004		2SD638	TRANSISTOR	1	
Q6006		2SB643	TRANSISTOR	1	
Q6007		2SB710	TRANSISTOR	1	(R,S)
Q6008		2SD1273	TRANSISTOR	1	(P,O)
Q6010		2SD637	TRANSISTOR	1	
Q6011		2SB709	TRANSISTOR CHIP	1	
Q6101		2SC2206	TRANSISTOR	1	(B,C)
QR701,02		UN2213	TRANSISTOR-RESISTOR	2	
QR711,12		UN2212	TRANSISTOR-RESISTOR	2	
QR713		UN2211	TRANSISTOR-RESISTOR	1	
QR717		UN2211	TRANSISTOR-RESISTOR	1	
QR720,21		UN2211	TRANSISTOR-RESISTOR	2	
QR853		UN1213	TRANSISTOR-RESISTOR	1	
QR1001		UN2213	TRANSISTOR-RESISTOR	1	
QR2002		DTC363EK	TRANSISTOR-RESISTOR	1	
QR2004		2SD1676	COMBINATION PARTS	1	
QR2005		UN2213	TRANSISTOR-RESISTOR	1	
QR3004		UN2111	TRANSISTOR-RESISTOR	1	
QR3008		UN2213	TRANSISTOR-RESISTOR	1	
QR4001		UN2213	TRANSISTOR-RESISTOR	1	
QR6002		UN2119	TRANSISTOR-RESISTOR	1	
QR6003		UN2113	TRANSISTOR-RESISTOR	1	
QR6004		UN2213	TRANSISTOR-RESISTOR	1	
QR6007		UN2212	TRANSISTOR-RESISTOR	1	
QR6011,12		UN2212	TRANSISTOR-RESISTOR	2	
QR7401		UN2211	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R301		ERJ6GMYJ122	CHIP 1/10W 1.2K	1	
R302		ERJ6GMYJ391	CHIP 1/10W 390	1	
R303		ERJ6GMYJ103	CHIP 1/10W 10K	1	
R304		ERJ6GMYJ102	CHIP 1/10W 1K	1	
R305		ERJ6GMYJ824	CHIP 1/10W 820K	1	
R306		ERJ6GMYJ152	CHIP 1/10W 1.5K	1	
R307		ERJ6GMYJ102	CHIP 1/10W 1K	1	
R308		ERJ6GMYJ123	CHIP 1/10W 12K	1	
R309		ERJ6GMYJ272	CHIP 1/10W 2.7K	1	
R310		ERJ6GMYJ103	CHIP 1/10W 10K	1	
R311		ERJ6GMYJ272	CHIP 1/10W 2.7K	1	
R312		ERJ6GMYJ182	CHIP 1/10W 1.8K	1	
R317		ERJ6GMYJ471	CHIP 1/10W 470	1	
R320		ERJ6GMYJ102	CHIP 1/10W 1K	1	
R325		ERJ6GMYJ151	CHIP 1/10W 150	1	
R326		ERJ6GMYJ822	CHIP 1/10W 8.2K	1	
R327		ERJ6GMYJ332	CHIP 1/10W 3.3K	1	
R328		ERJ6GMYJ272	CHIP 1/10W 2.7K	1	
R329		ERJ6GMYJ103	CHIP 1/10W 10K	1	
R330		ERJ6GMYJ183	CHIP 1/10W 18K	1	
R331		ERJ6GMYJ561	CHIP 1/10W 560	1	
R332		ERJ6GMYJ222	CHIP 1/10W 2.2K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R334,35		ERJ6GMYJ102	CHIP 1/10W 1K	2	
R338		ERJ6GMYJ124	CHIP 1/10W 120K	1	
R339		ERJ6GMYJ101	CHIP 1/10W 100	1	
R712		ERJ6GEYJ682	CHIP 1/10W 6.8K	1	
R713		ERJ6GEYJ681	CHIP 1/10W 680	1	
R714		ERD2FCG330	C.RESISTOR 2W 33	1	
R715		ERJ6GEYJ271	CHIP 1/10W 270	1	
R716		ERJ6GEYJ272	CHIP 1/10W 2.7K	1	
R717		ERJ6GEYJ332	CHIP 1/10W 3.3K	1	
R718		ERJ6GEYJ754	CHIP 1/10W 750K	1	
R719		ERJ6GEYJ682	CHIP 1/10W 6.8K	1	
R720		ERJ6GEYJ822	CHIP 1/10W 8.2K	1	
R721		ERJ6GEYJ392	CHIP 1/10W 3.9K	1	
R722		ERJ6GEYJ432	CHIP 1/10W 4.3K	1	
R723		ERJ6GEYJ183	CHIP 1/10W 180K	1	
R724		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R725		ERJ6GEYJ182	CHIP 1/10W 1.8K	1	
R726		ERJ6GEYJ472	CHIP 1/10W 4.7K	1	
R727		ERJ6GEYJ471	CHIP 1/10W 470	1	
R728		ERDS2TJ471	C.RESISTOR 1/4W 470	1	
R729,30		ERJ6GEYJ331	CHIP 1/10W 330	2	
R737		ERJ6GEYJ274	CHIP 1/10W 270K	1	
R738		ERJ6GEYJ334	CHIP 1/10W 330K	1	
R739		ERJ6GEYJ681	CHIP 1/10W 680	1	
R740		ERJ6GEYJ473	CHIP 1/10W 47K	1	
R743		ERJ6GEYJ470	CHIP 1/10W 47	1	
R744		ERJ6GEYJ821	CHIP 1/10W 820	1	
R745		ERJ6GEYJ181	CHIP 1/10W 180	1	
R746		ERDS2TJ181	C.RESISTOR 1/4W 180	1	
R750		ERJ6GEYJ182	CHIP 1/10W 1.8K	1	
R751		ERJ6GEYJ562	CHIP 1/10W 5.6K	1	
R756		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R757		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R757		ERJ6GEYJ222	CHIP 1/10W 2.2K	1	
R758		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R763		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R764		ERJ6GEYJ822	CHIP 1/10W 8.2K	1	
R771		ERJ6GEYJ472	CHIP 1/10W 4.7K	1	
R772		ERJ6GEYJ271	CHIP 1/10W 270	1	
R773		ERJ6GEYJ472	CHIP 1/10W 4.7K	1	
R774		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R774		ERJ6GEYJ562	CHIP 1/10W 5.6K	1	
R775		ERJ6GEYJ123	CHIP 1/10W 12K	1	
R776		ERJ6GEYJ122	CHIP 1/10W 1.2K	1	
R777		ERJ6GEYJ333	CHIP 1/10W 33K	1	
R778		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R779		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R780		ERJ6GEYJ182	CHIP 1/10W 1.8K	1	
R781		ERJ6GEYJ271	CHIP 1/10W 270	1	
R782		ERJ6GEYJ471	CHIP 1/10W 470	1	
R783		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R784		ERJ6GEYJ472	CHIP 1/10W 4.7K	1	
R785		ERJ6GEYJ821	CHIP 1/10W 820	1	
R787,88		ERJ6GEYJ222	CHIP 1/10W 2.2K	2	
R789		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R790		ERJ6GEYJ472	CHIP 1/10W 4.7K	1	
R791		ERJ6GEYJ392	CHIP 1/10W 3.9K	1	
R792		ERDS2TJ120	C.RESISTOR 1/4W 12	1	
R792		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R793		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R794		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R795		ERJ6GEYJ222	CHIP 1/10W 2.2K	1	
R795,96		ERJ6GEYJ334	CHIP 1/10W 330K	2	
R797		ERJ6GEYJ331	CHIP 1/10W 330	1	
R815		ERJ6GMYJ103	CHIP 1/10W 10K	1	
R816		ERJ6GMYJ822	CHIP 1/10W 8.2K	1	
R818		ERJ6GMYJ102	CHIP 1/10W 1K	1	
R819		ERJ6GMYJ182	CHIP 1/10W 1.8K	1	
R820		ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R821		ERJ6GMYJ273	CHIP 1/10W 27K	1	
R822		ERJ6GMYJ183	CHIP 1/10W 18K	1	
R823		ERJ6GMYJ271	CHIP 1/10W 270	1	
R824		ERJ6GMYJ102	CHIP 1/10W 1K	1	
R825		ERJ6GMYJ182	CHIP 1/10W 1.8K	1	
R831		ERJ6GMYJ821	CHIP 1/10W 820	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R851		ERDS2TJ223	C.RESISTOR 1/4W 22K	1	
R852		ERDS2TJ390	C.RESISTOR 1/4W 39	1	
R853		ERDS2TJ154	C.RESISTOR 1/4W 150K	1	
R854		ERDS2TJ222	C.RESISTOR 1/4W 2.2K	1	
R855		ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R856		ERDS2TJ103	C.RESISTOR 1/4W 10K	1	
R858		ERDS2TJ561	C.RESISTOR 1/4W 560	1	
R2001,02		ERJ6GMYJ102	CHIP 1/10W 1K	2	
R2004,05		ERJ6GMYJ223	CHIP 1/10W 22K	2	
R2006		ERJ6GMY0R00	M.RESISTOR CH1/10W 0.00	1	
R2007		ERJ6GMYJ332	CHIP 1/10W 3.3K	1	
R2008		ERJ6GMYJ102	CHIP 1/10W 1K	1	
R2009		ERJ6GMYJ393	CHIP 1/10W 39K	1	
R2010		ERJ6GMYJ103	CHIP 1/10W 10K	1	
R2011		ERJ6GMYJ152	CHIP 1/10W 1.5K	1	
R2012		ERJ6GMYJ221	CHIP 1/10W 220	1	
R2013		ERJ6GMYJ103	CHIP 1/10W 10K	1	
R2014		ERJ6GMYJ824	CHIP 1/10W 820K	1	
R2015,16		ERJ6GMYJ223	CHIP 1/10W 22K	2	
R2017		ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R2018		ERJ6GMYJ221	CHIP 1/10W 220	1	
R2019		ERJ6GMYJ124	CHIP 1/10W 120K	1	
R2020		ERJ6GMYJ821	CHIP 1/10W 820	1	
R2021		ERJ6GMYJ562	CHIP 1/10W 5.6K	1	
R2022		ERJ6GMYJ272	CHIP 1/10W 2.7K	1	
R2023		ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R2024		ERJ6GMYJ823	M.RESISTOR CH1/10W 82K	1	
R2025		ERJ6GMYG562	CHIP 1/10W 5.6K	1	
R2026		ERJ6GMYG392	M.RESISTOR CH1/10W 3.9K	1	
R2027		ERJ6GMYJ473	CHIP 1/10W 47K	1	
R2028		ERJ6GMYJ332	CHIP 1/10W 3.3K	1	
R2029		ERJ6GMYJ473	CHIP 1/10W 47K	1	
R2030		ERJ6GMYJ123	CHIP 1/10W 12K	1	
R2031		ERJ6GMYJ392	CHIP 1/10W 3.9K	1	
R2032		ERDS2TJ471	C.RESISTOR 1/4W 470	1	
R2034		ERJ6GMYJ104	CHIP 1/10W 100K	1	
R2037		ERJ6GMYJ103	CHIP 1/10W 10K	1	
R2038		ERJ6GMYJ102	CHIP 1/10W 1K	1	
R2040		ERJ6GMYJ471	CHIP 1/10W 470	1	
R2051		ERJ6GMYJ103	CHIP 1/10W 10K	1	
R2101-03		ERDS2TJ560	C.RESISTOR 1/4W 56	3	
R2104		ERX12SJR47	M.RESISTOR 1/2W 0.47	1	
R2105		ERJ6GMYJ102	CHIP 1/10W 1K	1	
R2106		ERJ6GMYG561	M.RESISTOR CH1/10W 560	1	
R2107		ERJ6GMYG562	CHIP 1/10W 5.6K	1	
R2108		ERJ6GMYG472	M.RESISTOR CH1/10W 4.7K	1	
R2109		ERJ6GMYJ330	CHIP 1/10W 33	1	
R2201		ERDS2TJ122	C.RESISTOR 1/4W 1.2K	1	
R2202-04		ERDS2TJ150	C.RESISTOR 1/4W 15	3	
R2205		ERX12SJR68	M.RESISTOR 1/2W 0.68	1	
R2405		ERJ6GMYJ562	CHIP 1/10W 5.6K	1	
R3001		ERJ6GMYJ103	CHIP 1/10W 10K	1	
R3002		ERJ6GMYJ682	CHIP 1/10W 6.8K	1	
R3003		ERJ6GMYJ472	CHIP 1/10W 4.7K	1	
R3019		ERDS2TJ471	C.RESISTOR 1/4W 470	1	
R3022,23		ERJ6GMYJ821	CHIP 1/10W 820	2	
R3028		ERJ6GMYJ102	CHIP 1/10W 1K	1	
R3029		ERJ6GMYJ272	CHIP 1/10W 2.7K	1	
R3030		ERJ6GMYJ750	CHIP 1/10W 75	1	
R3042		ERJ6GMYJ102	CHIP 1/10W 1K	1	
R3062		ERJ6GMYJ223	CHIP 1/10W 22K	1	
R3063		ERJ6GMYJ103	CHIP 1/10W 10K	1	
R3071		ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R3085		ERJ6GMYJ221	CHIP 1/10W 220	1	
R3086		ERJ6GMYJ103	CHIP 1/10W 10K	1	
R3087,88		ERJ6GMYJ104	CHIP 1/10W 100K	2	
R3094		ERJ6GMY0R00	M.RESISTOR CH1/10W 0.00	1	
R3095		ERJ6GMYJ102	CHIP 1/10W 1K	1	
R3096		ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R3101		ERJ6GMYJ102	CHIP 1/10W 1K	1	
R3102		ERJ6GMYJ152	CHIP 1/10W 1.5K	1	
R3103		ERJ6GMYJ392	CHIP 1/10W 3.9K	1	
R3104		ERJ6GMYJ152	CHIP 1/10W 1.5K	1	
R3105		ERJ6GMYJ561	CHIP 1/10W 560	1	
R3902-05		ERDS2TJ750	C.RESISTOR 1/4W 75	4	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R3908		ERDS2TJ104	C.RESISTOR 1/4W 100K	1	
R4001		ERJ6GMYJ100	CHIP 1/10W 10	1	
R4002		ERJ6GMYJ183	CHIP 1/10W 18K	1	
R4003		ERJ6GMYG223	M.RESISTOR CH1/10W 22K	1	
R4004		ERJ6GMYJ562	CHIP 1/10W 5.6K	1	
R4007		ERJ6GMYJ221	CHIP 1/10W 220	1	
R4008		ERJ6GMYJ122	CHIP 1/10W 1.2K	1	
R4010		ERJ6GMYJ683	CHIP 1/10W 68K	1	
R4012		ERJ6GMYJ331	CHIP 1/10W 330	1	
R4013		ERJ6GMYJ394	M.RESISTOR CH1/10W 390K	1	
R4014		ERJ6GMYG133	M.RESISTOR CH1/10W 13K	1	
R4016		ERJ6GMYJ105	CHIP 1/10W 1M	1	
R4017		ERJ6GMYJ302	M.RESISTOR CH1/10W 3K	1	
R4018		ERJ6GMYJ223	CHIP 1/10W 22K	1	
R4019		ERJ6GMYJ563	CHIP 1/10W 56K	1	
R4020		ERJ6GMYJ562	CHIP 1/10W 5.6K	1	
R4023		ERJ6GMYG473	CHIP 1/10W 47K	1	
R4024,25		ERJ6GMYG104	CHIP 1/10W 100K	2	
R4026		ERJ6GMYJ123	CHIP 1/10W 12K	1	
R4027		ERJ6GMYJ153	CHIP 1/10W 15K	1	
R4028		ERJ6GMYJ102	CHIP 1/10W 1K	1	
R4031		ERJ6GMYG272	M.RESISTOR CH1/10W 2.7K	1	
R4032		ERJ6GMYG622	M.RESISTOR CH1/10W 6.2K	1	
R4035		ERJ6GMYJ822	CHIP 1/10W 8.2K	1	
R4038		ERDS2TJ562	C.RESISTOR 1/4W 5.6K	1	
R4042		ERJ6GMYJ681	CHIP 1/10W 680	1	
R4044		ERJ6GMYG103	CHIP 1/10W 10K	1	
R4901		ERDS2TJ333	C.RESISTOR 1/4W 33K	1	
R4902		ERDS2TJ273	C.RESISTOR 1/4W 27K	1	
R6001-03		ERJ6GMYJ101	CHIP 1/10W 100	3	
R6004,05		ERJ6GMYJ333	CHIP 1/10W 33K	2	
R6006		ERJ6GMYJ332	CHIP 1/10W 3.3K	1	
R6007		ERJ6GMYJ122	CHIP 1/10W 1.2K	1	
R6008		ERJ6GMYJ561	CHIP 1/10W 560	1	
R6009		ERJ6GMYJ333	CHIP 1/10W 33K	1	
R6010		ERJ6GMYJ561	CHIP 1/10W 560	1	
R6011		ERJ6GMYJ333	CHIP 1/10W 33K	1	
R6012		ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R6013		ERJ6GMYJ683	CHIP 1/10W 68K	1	
R6014		ERJ6GMYJ473	CHIP 1/10W 47K	1	
R6015		ERJ6GMYJ101	CHIP 1/10W 100	1	
R6017		ERJ6GMYJ221	CHIP 1/10W 220	1	
R6018		ERJ6GMYJ131	CHIP 1/10W 130	1	
R6019		ERJ6GMYJ562	CHIP 1/10W 5.6K	1	
R6020		ERJ6GMYJ152	CHIP 1/10W 1.5K	1	
R6021		ERJ6GMYJ201	CHIP 1/10W 200	1	
R6022		ERG3SJ220	M.RESISTOR 3W 22	1	
R6023		ERJ6GMYJ471	CHIP 1/10W 470	1	
R6024		ERJ6GMYJ561	CHIP 1/10W 560	1	
R6025		ERJ6GMYJ391	CHIP 1/10W 390	1	
R6026		ERD2FCVG220	C.RESISTOR 2W 22	1	
R6028		ERJ6GMYJ103	CHIP 1/10W 10K	1	
R6029		ERDS2TJ152	C.RESISTOR 1/4W 1.5K	1	
R6030		ERJ6GMYJ751	M.RESISTOR CH1/10W 750	1	
R6031		ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R6032		ERJ6GMYJ223	CHIP 1/10W 22K	1	
R6033		ERJ6GMYJ824	CHIP 1/10W 820K	1	
R6034		ERJ6GMYJ105	CHIP 1/10W 1M	1	
R6036		ERJ6GMYJ221	CHIP 1/10W 220	1	
R6039		ERJ6GMYJ473	CHIP 1/10W 47K	1	
R6040		ERJ6GMYJ562	CHIP 1/10W 5.6K	1	
R6041		ERJ6GMYJ332	CHIP 1/10W 3.3K	1	
R6042,43		ERJ6GMYJ222	CHIP 1/10W 2.2K	2	
R6044,45		ERJ6GMYJ221	CHIP 1/10W 220	2	
R6047		ERDS1TJ332	C.RESISTOR 1/2W 3.3K	1	
R6048		ERJ6GMYJ681	CHIP 1/10W 680	1	
R6049		ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R6053		ERG2SJ471	M.RESISTOR 2W 470	1	
R6054		ERJ6GMYJ104	CHIP 1/10W 100K	1	
R6055		ERJ6GMYJ101	CHIP 1/10W 100	1	
R6056		ERJ6GMYJ473	CHIP 1/10W 47K	1	
R6057		ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R6059		ERJ6GMYJ102	CHIP 1/10W 1K	1	
R6060		ERJ6GMYJ104	CHIP 1/10W 100K	1	
R6101		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R6102		ERJ6GEYJ333	CHIP 1/10W 33K	1	
R6103,04		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R7401		ERDS2TJ103	C.RESISTOR 1/4W 10K	1	
R7402		ERJ6GMYJ181	CHIP 1/10W 180	1	
R7651		ERJ6GEYJ332	CHIP 1/10W 3.3K	1	
R7654		ERJ6GEYJ562	CHIP 1/10W 5.6K	1	
R7655		ERJ6GEYJ472	CHIP 1/10W 4.7K	1	
R7656		ERJ6GEYJ151	CHIP 1/10W 150	1	
R7657		ERJ6GEYJ104	CHIP 1/10W 100K	1	
R7658		ERJ6GEYJ393	CHIP 1/10W 39K	1	
R7659		ERJ6GEYJ822	CHIP 1/10W 8.2K	1	
R7661		ERJ6GEYJ562	CHIP 1/10W 5.6K	1	
R7662		ERJ6GEYJ393	CHIP 1/10W 39K	1	
R7663		ERJ6GEYJ222	CHIP 1/10W 2.2K	1	
R7664		ERJ6GEYJ332	CHIP 1/10W 3.3K	1	
R7671,72		ERJ6GEYJ473	CHIP 1/10W 47K	2	
R7673		ERJ6GEYJ104	CHIP 1/10W 100K	1	
R7674		ERJ6GEYJ124	CHIP 1/10W 120K	1	
R7675		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R7676		ERG1SJ152	M.RESISTOR 1W 1.5K	1	
R7677		ERDS2TJ103	C.RESISTOR 1/4W 10K	1	
R7678		ERJ6GEYJ223	CHIP 1/10W 22K	1	
R7679		ERDS2TJ100	C.RESISTOR 1/4W 10	1	
R7680		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R7681,82		ERJ6GEYJ473	CHIP 1/10W 47K	2	
R7683		ERJ6GEYJ563	CHIP 1/10W 56K	1	
R7684		ERJ6GEYJ393	CHIP 1/10W 39K	1	
R7691		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R7692		ERJ6GEYJ104	CHIP 1/10W 100K	1	
R7694		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
SW3901		VSS0225	SWITCH	1	
T703		EIV5EC021A	TRANSFORMER	1	
T704		EIV5EC020A	TRANSFORMER	1	
T711		EIS5EC003A	TRANSFORMER	1	
T712		EIS5EC011A	TRANSFORMER	1	
T713		EIS5EC005A	TRANSFORMER	1	
T851		ELM7Q207A	TRANSFORMER	1	
T4001		EIQ7QF014Q	TRANSFORMER	1	
VR302		EVN4YCA00B23	V.RESISTOR 2K	1	
VR701,02		EVNDRAA00B23	V.RESISTOR 2K	2	
VR741		EVNDRAA00B14	V.RESISTOR 10K	1	
VR751		EVNDRAA00B53	V.RESISTOR 5K	1	
VR752,53		EVNDRAA00B14	V.RESISTOR 10K	2	
VR803		EVNDRAA00B14	V.RESISTOR 10K	1	
VR2001		EVNDRAA00B54	V.RESISTOR 50K	1	
VR2010		EVND1AA00B25	V.RESISTOR 200K	1	
VR3012		EVNDRAA00B52	V.RESISTOR 500	1	
VR4002		EVNDRAA00B25	V.RESISTOR 200K	1	
VR7660		EVNDRAA00B23	V.RESISTOR 2K	1	
X301		VSX0225	CRYSTAL OSCILLATOR	1	
X710		EFCH38MSP32	CRYSTAL OSCILLATOR	1	
X711		EFCS5M65MW3B	CRYSTAL OSCILLATOR	1	
X712		EFCS6R5MS5	CRYSTAL OSCILLATOR	1	
X722		EFCS5R5MS5	CRYSTAL OSCILLATOR	1	
X801		VSX0162	CRYSTAL OSCILLATOR	1	
X3101		VSX0099	CRYSTAL OSCILLATOR	1	
X6101		VSX0244	CRYSTAL OSCILLATOR	1	
X7401		VSQ0565	SENSOR	1	
			MISCELLANEOUS		
		VMC0075	HEAT SINK SPRING	1	FOR IC2101

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VSC1689	HEAT SINK	1	FOR IC2101
		VSC1068	HEAT SINK	1	FOR Q6008
		VMA6768	EARTH ANGLE	1	
		ENC17959	RF CONVERTER	1	<!>
		VEJ0797	ANT. TERMINAL PLATE	1	
		VEJ0782	REAR JACK	1	
		VJF0260	CLAMPER	1	
		VMZ1130	HEAT SINK BARRIER	1	
		VJF0379	CLAMPER	1	
		VWJ14AW140MM	FLEXIBLE WIRE	1	(P7401 - P7501)
		VMC0462	EARTH SPRING	1	(FOR SUB MAIN)
		ENV59815H3	TUNER	1	<!> (FOR TV DEMODU.)
		VSC2712	SHIELD CASE (TOP)	1	(FOR TV DEMODU.)
		VSC2713	SHIELD CASE (MAIN)	1	(FOR TV DEMODU.)
		VSC2714	SHIELD CASE (BOTTOM)	1	(FOR TV DEMODU.)
		VJR0189	PACK PIN (10P)	1	(FOR MULTI DECODER)
	■	VEP03588AK	MAIN C.B.A.		NV-L20EO <!> (NLA)
					[SUPPLIED FROM M.B.V]
			CAPACITORS		
C301		ECEA1EKN2R2	E.CAPACITOR 25V 2.2U	1	
C302		ECEA0JK220	E.CAPACITOR 6.3V 22U	1	
C303		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C304		ECEA0JU331	E.CAPACITOR 6.3V 330U	1	
C305		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C306		ECEA1EK4R7	E.CAPACITOR 25V 4.7U	1	
C307		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C308		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C310		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C311,12		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	2	
C313		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C314		ECUM1H121JCN	C.CAPACITOR CH 50V 120P	1	
C315		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C317		ECEA1AK470U	E.CAPACITOR 10V 47U	1	
C319		ECUM1H471KBN	C.CAPACITOR CH 50V 470P	1	
C320		ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C321		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C322		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	1	
C324		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C325,26		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C327,28		ECEA1CK100	E.CAPACITOR 16V 10U	2	
C329		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C331		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C332		ECQV1H334JZ	P.CAPACITOR 50V 0.33U	1	
C333		ECEA1HK4R7	E.CAPACITOR 50V 4.7U	1	
C334		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C335		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C336		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C337		ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C338		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C339		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C340		ECEA1EK4R7	E.CAPACITOR 25V 4.7U	1	
C349		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C351		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C352		ECQB1H562JH	P.CAPACITOR 50V 5600P	1	
C353		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C360		ECUM1H153ZFN	C.CAPACITOR CH 50V 0.015U	1	
C361		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C701		ECEA1EK4R7	E.CAPACITOR 25V 4.7U	1	
C702		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C703		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	1	
C707		ECEA1HK0R1	E.CAPACITOR 50V 0.1U	1	
C708		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C710		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C715-20		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	6	
C721		ECEA1HKR27K	E.CAPACITOR 50V 0.27U	1	
C722		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C723		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C725		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C727		ECUM1H080DCN	C.CAPACITOR CH 50V 80P	1	
C728		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C730		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C731		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C732		ECQV1H224JZ	P.CAPACITOR 50V 0.22U	1	
C734		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C735		ECUM1H070DCN	C.CAPACITOR CH 50V 7P	1	
C736		ECQB1H103JH	P.CAPACITOR 50V 0.01U	1	
C737		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C739		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C740		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C741		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C742		ECUM1H030CCN	C.CAPACITOR CH 50V 3P	1	
C743		ECUM1H270RSN	C.CAPACITOR CH 50V 27P	1	
C744		ECEA1HKR47	E.CAPACITOR 50V 0.47U	1	
C745		ECUM1H680JPN	C.CAPACITOR CH 50V 68P	1	
C746		ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C748		ECEA1CK470U	E.CAPACITOR 16V 47U	1	
C749		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C760		ECQV1H473JZ	P.CAPACITOR 50V 0.047U	1	
C775		ECUM1H120JCN	C.CAPACITOR CH 50V 12P	1	
C781		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C782		ECUM1H060DCN	C.CAPACITOR CH 50V 6P	1	
C790		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C797,98		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C814		ECEA1AK101	E.CAPACITOR 10V 100U	1	
C815		ECQV1H154JZ	P.CAPACITOR 50V 0.15U	1	
C816		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C817		ECQV1H124JZ	P.CAPACITOR 50V 0.12U	1	
C818		ECUM1H471KBN	C.CAPACITOR CH 50V 470P	1	
C819		ECUM1H820JCN	C.CAPACITOR CH 50V 82P	1	
C820		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	1	
C821		ECEA1HFS4R7	E.CAPACITOR 50V 4.7U	1	
C823		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	1	
C824		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C825		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C826		ECEA1AU221	E.CAPACITOR 10V 220U	1	
C827		ECUM1H050DCN	C.CAPACITOR CH 50V 5P	1	
C828		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C829		ECQV1H474JZ	P.CAPACITOR 50V 0.47U	1	
C831,32		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C833		ECUM1H471KBN	C.CAPACITOR CH 50V 470P	1	
C1001		ECEA1EK470	E.CAPACITOR 25V 47U	1	
C1003		ECEA0JK101U	E.CAPACITOR 6.3V 100U	1	
C1004		ECEA1CK470U	E.CAPACITOR 16V 47U	1	
C2001		ECEA0JK221	E.CAPACITOR 6.3V 220U	1	
C2002		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C2003		ECQB1H472JH	P.CAPACITOR 50V 4700P	1	
C2004		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2005		ECQV1H394JZ	P.CAPACITOR 50V 0.39U	1	
C2006		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C2007		ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C2008		ECEA1HKN010	E.CAPACITOR 50V 1U	1	
C2009		ECEA1CKN100	E.CAPACITOR 16V 10U	1	
C2010		ECEA1HKR47	E.CAPACITOR 50V 0.47U	1	
C2011		ECUM1H562KBN	C.CAPACITOR CH 50V 5600P	1	
C2012		VCYD1E473KR	S.CAPACITOR 25V 0.047U	1	
C2013		ECEA1HK4R7	E.CAPACITOR 50V 4.7U	1	
C2014		ECEA0JK221	E.CAPACITOR 6.3V 220U	1	
C2015		ECEA0JK101U	E.CAPACITOR 6.3V 100U	1	
C2016		VCYD1E223KR	S.CAPACITOR 25V 0.022U	1	
C2017		ECEA0JK221	E.CAPACITOR 6.3V 220U	1	
C2018		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C2019		ECEA1HKN2R2	E.CAPACITOR 50V 2.2U	1	
C2020		VCYD1E473KR	S.CAPACITOR 25V 0.047U	1	
C2022		ECEA1HKN2R2	E.CAPACITOR 50V 2.2U	1	
C2024		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C2025		ECQV1H683JZ	P.CAPACITOR 50V 0.068U	1	
C2026		ECQV1H224JZ	P.CAPACITOR 50V 0.22U	1	
C2027		ECEA1HKR47	E.CAPACITOR 50V 0.47U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C2028		ECQB1H333JH	P.CAPACITOR 50V 0.033U	1	
C2029		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C2030		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C2031		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C2033		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2034		ECEA0JK330	E.CAPACITOR 6.3V 33U	1	
C2050		ECEA0JK221	E.CAPACITOR 6.3V 220U	1	
C2101-03		ECQB1H333JH	P.CAPACITOR 50V 0.033U	3	
C2104-06		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	3	
C2107,08		VCYD1E333KR	S.CAPACITOR 25V 0.033U	2	
C2111		ECEA1CK101	E.CAPACITOR 16V 100U	1	
C2115		ECEA1CK470U	E.CAPACITOR 16V 47U	1	
C2116		ECEA1EU221	E.CAPACITOR 25V 220U	1	
C2118		VCYD1E333KR	S.CAPACITOR 25V 0.033U	1	
C2121		ECQV1H184JZ	P.CAPACITOR 50V 0.18U	1	
C2201		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C2203		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C2204-06		ECEA1HK0R1	E.CAPACITOR 50V 0.1U	3	
C2207		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C2208-10		ECEA1VKN4R7	E.CAPACITOR 35V 4.7U	3	
C2211		ECQB1H473JH	P.CAPACITOR 50V 0.047U	1	
C2212		ECEA0JK101U	E.CAPACITOR 6.3V 100U	1	
C2213		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C3001		ECEA1CK470U	E.CAPACITOR 16V 47U	1	
C3002		ECEA0JU471	E.CAPACITOR 6.3V 470U	1	
C3003,04		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3010		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C3011		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3012		ECUM1H681KBN	C.CAPACITOR CH 50V 680P	1	
C3013		ECEA1HKN010	E.CAPACITOR 50V 1U	1	
C3014		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3015		VCYD1E103KR	S.CAPACITOR 25V 0.01U	1	
C3016		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C3017,18		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3019		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3053		ECEA0JK101U	E.CAPACITOR 6.3V 100U	1	
C3064		ECQB1H103JH	P.CAPACITOR 50V 0.01U	1	
C3065		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3067,68		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3070		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3071		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C3076		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C3081		ECEA1CK220	E.CAPACITOR 16V 22U	1	
C3101		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C3102		ECEA1CK470U	E.CAPACITOR 16V 47U	1	
C3103,04		ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	2	
C3105		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C3901,02		ECEA1CK330U	E.CAPACITOR 16V 33U	2	
C3903		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C3904-06		ECEA1CK470U	E.CAPACITOR 16V 47U	3	
C3907,08		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	2	
C3909		ECEA1HKR47	E.CAPACITOR 50V 0.47U	1	
C3914		ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C3916		ECUM1H471KBN	C.CAPACITOR CH 50V 470P	1	
C4001		ECQB1H153JH	P.CAPACITOR 50V 0.015U	1	
C4002		ECEA16M33	E.CAPACITOR 16V 33U	1	
C4003		ECKF1H102ZF	C.CAPACITOR 50V 1000P	1	
C4004		ECQP1332JZ	P.CAPACITOR 100V 3300P	1	
C4005		ECCD2H121K	C.CAPACITOR 500V 120P	1	
C4006		ECEA1CK470U	E.CAPACITOR 16V 47U	1	
C4007		ECEA1CK330U	E.CAPACITOR 16V 33U	1	
C4008		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C4009		ECEA1EK4R7	E.CAPACITOR 25V 4.7U	1	
C4012		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C4013		ECUM1H681JN	C.CAPACITOR CH 50V 680P	1	
C4015		ECEA16M10	E.CAPACITOR 16V 10U	1	
C4016		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C4017		ECEA10M47	E.CAPACITOR 10V 47U	1	
C4018		ECQB1H822JH	P.CAPACITOR 50V 8200P	1	
C4019		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C4020		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C4021		ECEA1AK101	E.CAPACITOR 10V 100U	1	
C4022		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C4023		ECUN1H221JCN	C.CAPACITOR CH 50V 220P	1	
C4024,25		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C4026		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C4029		ECQB1H123JH	P.CAPACITOR 50V 0.012U	1	
C4033		ECQB1H102JH	P.CAPACITOR 50V 1000P	1	
C6001,02		ECEA0JK470	E.CAPACITOR 6.3V 47U	2	
C6005		ECEA1CK330U	E.CAPACITOR 16V 33U	1	
C6006		ECEA0JK330	E.CAPACITOR 6.3V 33U	1	
C6007		VCYD1C104MR1	S.CAPACITOR 16V 0.1U	1	
C6008		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6010		ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	1	
C6011,12		ECUM1H271JCN	C.CAPACITOR CH 50V 270P	2	
C6013		ECKF1H103ZF	C.CAPACITOR 50V 0.01U	1	
C6014		ECEA1CK220	E.CAPACITOR 16V 22U	1	
C6015		ECEA1CK330U	E.CAPACITOR 16V 33U	1	
C6021		ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	1	
C6022		ECKF1H103ZF	C.CAPACITOR 50V 0.01U	1	
C6025		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6028		ECKF1H332KB	C.CAPACITOR 50V 3300P	1	
C6029		ECKF1H103ZF	C.CAPACITOR 50V 0.01U	1	
C6101		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6102		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C6103		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C6104		ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C6105		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C6106		ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C7401		ECEA0JU221	E.CAPACITOR 6.3V 220U	1	
C7402		EECS5R5V473	E.CAPACITOR 5.5V 0.047	1	
C7404		ECKF1H223ZF	C.CAPACITOR 50V 0.022U	1	
C7409		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C7410		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7421		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7422		ECKF1H272KB	C.CAPACITOR 50V 2700P	1	
C7423		ECKF1H103ZF	C.CAPACITOR 50V 0.01U	1	
C7651		ECEA1CKN100	E.CAPACITOR 16V 10U	1	
C7653		ECQB1H332JH	P.CAPACITOR 50V 3300P	1	
C7668		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7672		ECEA1HKS010	E.CAPACITOR 50V 1U	1	
D301		MA4091M	DIODE	1	
D710		MA3100L	DIODE	1	
D771		MA151WK	DIODE	1	
D772		MA165	DIODE	1	
D773		11ES1	DIODE	1	
D1001,02		MA165	DIODE	2	
D2003,04		MA165	DIODE	2	
D2007,08		MA165	DIODE	2	
D3001		MA165	DIODE	1	
D3009		MA165	DIODE	1	
D3101		MA165	DIODE	1	
D3102		MA27WA	DIODE	1	
D3901,02		MA165	DIODE	2	
D4003		MA165	DIODE	1	
D6001		MA4051	DIODE	1	
D6002-04		MA165	DIODE	3	
D6005		ERA15-01	DIODE	1	
D6006		MA165	DIODE	1	
D6008		MA723	DIODE	1	
D6009		MA4150L	DIODE	1	
D6021		MA723	DIODE	1	
D7401,02		MA723	DIODE	2	
D7672		MA3300H	DIODE	1	
DL802		EFDBR124A53T	DELAY	1	
FL301		ELB4M022	FILTER	1	
FL302		VLF0499	FILTER	1	
FL303		VLF0727	FILTER	1	
FL801		ELB4W002	FILTER	1	
FL3101		VLF0413	FILTER	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
IC301		VEFH03D	HIC	1	
IC303		MSM6965-3RS	IC	1	
IC701		M51366SP	IC	1	
IC801		VEFH04F	IC	1	
IC2001		MN6740VCTK	IC	1	
IC2101		BA6435S	IC	1	
IC2201		AN3814K	IC	1	
IC3101		BA7004	IC	1	
IC3901		LA7150	IC	1	
IC4001		BA7766AS	IC	1	
IC6003		MN12821R	IC	1	
J701		VJR0231	PACK PIN	1	
J702,03		VJR0406	PACK PIN	2	
J704		VJR0231	PACK PIN	1	
L301		VLQEL05F101K	COIL 100UH	1	
L302		VLQEL05F220K	COIL 22UH	1	
L303,04		VLQEL05F101K	COIL 100UH	2	
L306		VLQEL05F101K	COIL 100UH	1	
L307		VLQEL05F151K	COIL 150UH	1	
L308		VLQEL05F270K	COIL 27UH	1	
L309,10		VLQEL05F101K	COIL 100UH	2	
L311		VLQEL05F2R2K	COIL 2.2UH	1	
L701,02		ELESP680KA	COIL 68UH	2	
L711		ELQTR68XB	COIL 0.68UH	1	
L712		VLQ0305J1R2	COIL 1.2UH	1	
L714		VLQ0305J1R2	COIL 1.2UH	1	
L715		VLQ0213K680	COIL 68UH	1	
L716		ELESP560KA	COIL 56UH	1	
L717,18		ELESP680KA	COIL 68UH	2	
L719		ELESP120KA	COIL 12UH	1	
L781		ELESP680KA	COIL 68UH	1	
L804		VLQ0213K150	COIL 15UH	1	
L805		VLQEL05F101K	COIL 100UH	1	
L806		VLQEL05F681K	COIL 680UH	1	
L808		VLQEL05F470K	COIL 47UH	1	
L809		VLQEL05F331K	COIL 330UH	1	
L810		VLQEL05F101K	COIL 100UH	1	
L811		VLQEL05F470K	COIL 47UH	1	
L812		VLQEL05F681K	COIL 680UH	1	
L2002		VLP0074	COIL	1	
L2003		VLQEL05F101K	COIL 100UH	1	
L2101		VLQEL05F102K	COIL 1000UH	1	
L3001-03		VLQEL05F101K	COIL 100UH	3	
L3005		VLQEL05F120K	COIL 12UH	1	
L3006		VLQEL05F6R8K	COIL 6.8UH	1	
L3007		VLQEL05F101K	COIL 100UH	1	
L3008		VLQEL05F3R3K	COIL 3.3UH	1	
L3101		VLQEL05F101K	COIL 100UH	1	
L3901		VLQEL05F1R0K	COIL 1UH	1	
L3902		VLQEL05F2R7K	COIL 2.7UH	1	
L4001		VLQEL07F822J	COIL 8200UH	1	
L4002		VLQEL05F471K	COIL 470UH	1	
L6101		VLQEL05F101K	COIL 100UH	1	
L7401		VLQEL05F1R0K	COIL 1UH	1	
L7402		VLQEL05F101K	COIL 100UH	1	
L7404		VLQEL05F1R0K	COIL 1UH	1	
L7405		VLQEL05F101K	COIL 100UH	1	
P001		VJS1237T	CONNECTOR	1	
P006		VJS1902	CONNECTOR (FEMALE)	1	
P501		VJS1237T	CONNECTOR	1	
P1001		VJF0171T	CONNECTOR	1	
P1001		VJP1393T	CONNECTOR (MALE) 13P	1	
P1101		VJF0171T	CONNECTOR	1	
P2001		VJP1932T	CONNECTOR (MALE)	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
P2001	VJS1932T	CONNECTOR (FEMALE)	1	
P2201	VJP1237T	CONNECTOR (MALE) 10P	1	
P2201	VJS1237T	CONNECTOR	1	
P3001	VJP1237T	CONNECTOR (MALE) 10P	1	
P3001	VJS1237T	CONNECTOR	1	
P3902	VJS1469	CONNECTOR (FEMALE)	1	
P4001	VJP2622	CONNECTOR (MALE)	1	
P6001	VJS2571A012	CONNECTOR	1	
P6002	VJS2571A004	CONNECTOR	1	
P7401	VJS1662	CONNECTOR (FEMALE)	1	
P7402	VJS2571A015	CONNECTOR (FEMALE)	1	
PK2201	VJR0452	PACK PIN	1	
PK2202	VJR0348	PACK PIN	1	
PK3901	VJR0348	PACK PIN	1	
PK3902	VJR0523	PACK PIN	1	
PK3903	VJR0348	PACK PIN	1	
PK3904	VJR0416	PACK PIN	1	
PK6101	VJR0277	PACK PIN	1	
Q301	2SB709	TRANSISTOR CHIP	1	(Q,R,S)
Q302,03	2SC2295	TRANSISTOR CHIP	2	(B,C)
Q304	2SD601	TRANSISTOR CHIP	1	(Q,R,S)
Q703	2SD601	TRANSISTOR	1	(S,T)
Q710	2SC2377	TRANSISTOR	1	(C,D)
Q712	2SD638	TRANSISTOR	1	
Q713	2SD1328	TRANSISTOR	1	
Q771	2SD601	TRANSISTOR CHIP	1	
Q804	2SB709	TRANSISTOR CHIP	1	(Q,R,S)
Q2001	2SD601	TRANSISTOR CHIP	1	(Q,R,S)
Q2002	2SD1330	TRANSISTOR	1	(S,T)
Q3001	2SC2295	TRANSISTOR	1	
Q3003	2SD601	TRANSISTOR CHIP	1	
Q3004	2SB709	TRANSISTOR CHIP	1	(Q,R,S)
Q3006	2SC2295	TRANSISTOR	1	
Q3007	2SB709	TRANSISTOR CHIP	1	(Q,R,S)
Q3101	2SD601	TRANSISTOR CHIP	1	
Q4001	2SD602	TRANSISTOR	1	(R)
Q6001	2SD893	TRANSISTOR	1	
Q6002,03	2SD973	TRANSISTOR	2	(S)
Q6004	2SD638	TRANSISTOR	1	
Q6006	2SB643	TRANSISTOR	1	
Q6007	2SB710	TRANSISTOR	1	(R,S)
Q6008	2SD1273	TRANSISTOR	1	(P,O)
Q6010	2SD637	TRANSISTOR	1	
Q6011	2SB709	TRANSISTOR CHIP	1	
Q6101	2SC2206	TRANSISTOR	1	(B,C)
QR701,02	UN2213	TRANSISTOR-RESISTOR	2	
QR711,12	UN2212	TRANSISTOR-RESISTOR	2	
QR714	UN2211	TRANSISTOR-RESISTOR	1	
QR1001	UN2213	TRANSISTOR-RESISTOR	1	
QR2002	DTC363EK	TRANSISTOR-RESISTOR	1	
QR2004	2SD1676	COMBINATION PARTS	1	
QR2005	UN2213	TRANSISTOR-RESISTOR	1	
QR3004	UN2111	TRANSISTOR-RESISTOR	1	
QR3008	UN2213	TRANSISTOR-RESISTOR	1	
QR4001	UN2213	TRANSISTOR-RESISTOR	1	
QR6002	UN2119	TRANSISTOR-RESISTOR	1	
QR6003	UN2113	TRANSISTOR-RESISTOR	1	
QR6004	UN2213	TRANSISTOR-RESISTOR	1	
QR6007	UN2212	TRANSISTOR-RESISTOR	1	
QR6011,12	UN2212	TRANSISTOR-RESISTOR	2	
QR7401	UN2211	TRANSISTOR-RESISTOR	1	
		RESISTORS		
R301	ERJ6GMYJ122	CHIP 1/10W 1.2K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R302	ERJ6GMYJ391	CHIP 1/10W 390	1	
R303	ERJ6GMYJ103	CHIP 1/10W 10K	1	
R304	ERJ6GMYJ102	CHIP 1/10W 1K	1	
R305	ERJ6GMYJ824	CHIP 1/10W 820K	1	
R306	ERJ6GMYJ152	CHIP 1/10W 1.5K	1	
R307	ERJ6GMYJ102	CHIP 1/10W 1K	1	
R308	ERJ6GMYJ123	CHIP 1/10W 12K	1	
R309	ERJ6GMYJ272	CHIP 1/10W 2.7K	1	
R310	ERJ6GMYJ103	CHIP 1/10W 10K	1	
R311	ERJ6GMYJ272	CHIP 1/10W 2.7K	1	
R312	ERJ6GMYJ182	CHIP 1/10W 1.8K	1	
R317	ERJ6GMYJ471	CHIP 1/10W 470	1	
R320	ERJ6GMYJ102	CHIP 1/10W 1K	1	
R325	ERJ6GMYJ151	CHIP 1/10W 150	1	
R326	ERJ6GMYJ822	CHIP 1/10W 8.2K	1	
R327	ERJ6GMYJ332	CHIP 1/10W 3.3K	1	
R328	ERJ6GMYJ272	CHIP 1/10W 2.7K	1	
R329	ERJ6GMYJ103	CHIP 1/10W 10K	1	
R330	ERJ6GMYJ183	CHIP 1/10W 18K	1	
R331	ERJ6GMYJ561	CHIP 1/10W 560	1	
R332	ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R334,35	ERJ6GMYJ102	CHIP 1/10W 1K	2	
R338	ERJ6GMYJ124	CHIP 1/10W 120K	1	
R339	ERJ6GMYJ101	CHIP 1/10W 100	1	
R712	ERJ6GEYJ682	CHIP 1/10W 6.8K	1	
R713	ERJ6GEYJ681	CHIP 1/10W 680	1	
R714	ERD2FCG330	C.RESISTOR 2W 33	1	
R715	ERJ6GEYJ271	CHIP 1/10W 270	1	
R716	ERJ6GEYJ152	CHIP 1/10W 1.5K	1	
R717	ERJ6GEYJ332	CHIP 1/10W 3.3K	1	
R718	ERJ6GEYJ754	CHIP 1/10W 750K	1	
R719,20	ERJ6GEYJ682	CHIP 1/10W 6.8K	2	
R721	ERJ6GEYJ272	CHIP 1/10W 2.7K	1	
R722	ERJ6GEYJ332	CHIP 1/10W 3.3K	1	
R723	ERJ6GEYJ183	CHIP 1/10W 180K	1	
R724	ERDS2TJ101	C.RESISTOR 1/4W 100	1	
R725	ERJ6GEYJ182	CHIP 1/10W 1.8K	1	
R726	ERJ6GEYJ472	CHIP 1/10W 4.7K	1	
R727	ERJ6GEYJ471	CHIP 1/10W 470	1	
R728	ERDS2TJ471	C.RESISTOR 1/4W 470	1	
R729,30	ERJ6GEYJ331	CHIP 1/10W 330	2	
R737	ERJ6GEYJ274	CHIP 1/10W 270K	1	
R738	ERJ6GEYJ334	CHIP 1/10W 330K	1	
R739	ERJ6GEYJ681	CHIP 1/10W 680	1	
R740	ERJ6GEYJ473	CHIP 1/10W 47K	1	
R741	ERJ6GEYJ562	CHIP 1/10W 5.6K	1	
R743	ERJ6GEYJ470	CHIP 1/10W 47	1	
R744	ERJ6GEYJ821	CHIP 1/10W 820	1	
R745	ERJ6GEYJ331	CHIP 1/10W 330	1	
R746	ERDS2TJ181	C.RESISTOR 1/4W 180	1	
R747	ERJ6GEYJ471	CHIP 1/10W 470	1	
R750	ERJ6GEYJ182	CHIP 1/10W 1.8K	1	
R757	ERJ6GEYJ222	CHIP 1/10W 2.2K	1	
R758	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R759	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R763	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R764	ERJ6GEYJ822	CHIP 1/10W 8.2K	1	
R772	ERJ6GEYJ271	CHIP 1/10W 270	1	
R773	ERJ6GEYJ124	CHIP 1/10W 120K	1	
R774	ERJ6GEYJ104	CHIP 1/10W 100K	1	
R781	ERJ6GEYJ271	CHIP 1/10W 270	1	
R782	ERJ6GEYJ821	CHIP 1/10W 820	1	
R792	ERDS2TJ120	C.RESISTOR 1/4W 12	1	
R795	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R796	ERJ6GEYJ182	CHIP 1/10W 1.8K	1	
R815	ERJ6GMYJ103	CHIP 1/10W 10K	1	
R816	ERJ6GMYJ822	CHIP 1/10W 8.2K	1	
R818	ERJ6GMYJ102	CHIP 1/10W 1K	1	
R819	ERJ6GMYJ182	CHIP 1/10W 1.8K	1	
R820	ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R821	ERJ6GMYJ273	CHIP 1/10W 27K	1	
R822	ERJ6GMYJ183	CHIP 1/10W 18K	1	
R823	ERJ6GMYJ271	CHIP 1/10W 270	1	
R824	ERJ6GMYJ102	CHIP 1/10W 1K	1	
R825	ERJ6GMYJ182	CHIP 1/10W 1.8K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R831		ERJ6GMYJ821	CHIP 1/10W 820	1	
R2001,02		ERJ6GMYJ102	CHIP 1/10W 1K	2	
R2004,05		ERJ6GMYJ223	CHIP 1/10W 22K	2	
R2006		ERJ6GMY0R00	M.RESISTOR CH1/10W 0.00	1	
R2007		ERJ6GMYJ332	CHIP 1/10W 3.3K	1	
R2008		ERJ6GMYJ102	CHIP 1/10W 1K	1	
R2009		ERJ6GMYJ393	CHIP 1/10W 39K	1	
R2010		ERJ6GMYJ103	CHIP 1/10W 10K	1	
R2011		ERJ6GMYJ152	CHIP 1/10W 1.5K	1	
R2012		ERJ6GMYJ221	CHIP 1/10W 220	1	
R2013		ERJ6GMYJ103	CHIP 1/10W 10K	1	
R2014		ERJ6GMYJ824	CHIP 1/10W 820K	1	
R2015,16		ERJ6GMYJ223	CHIP 1/10W 22K	2	
R2017		ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R2018		ERJ6GMYJ221	CHIP 1/10W 220	1	
R2019		ERJ6GMYJ124	CHIP 1/10W 120K	1	
R2020		ERJ6GMYJ821	CHIP 1/10W 820	1	
R2021		ERJ6GMYJ562	CHIP 1/10W 5.6K	1	
R2022		ERJ6GMYJ272	CHIP 1/10W 2.7K	1	
R2023		ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R2024		ERJ6GMYJ823	M.RESISTOR CH1/10W 82K	1	
R2025		ERJ6GMYG562	CHIP 1/10W 5.6K	1	
R2026		ERJ6GMYG392	M.RESISTOR CH1/10W 3.9K	1	
R2027		ERJ6GMYJ473	CHIP 1/10W 47K	1	
R2028		ERJ6GMYJ332	CHIP 1/10W 3.3K	1	
R2029		ERJ6GMYJ473	CHIP 1/10W 47K	1	
R2030		ERJ6GMYJ123	CHIP 1/10W 12K	1	
R2031		ERJ6GMYJ392	CHIP 1/10W 3.9K	1	
R2032		ERDS2TJ471	C.RESISTOR 1/4W 470	1	
R2034		ERJ6GMYJ104	CHIP 1/10W 100K	1	
R2037		ERJ6GMYJ103	CHIP 1/10W 10K	1	
R2038		ERJ6GMYJ102	CHIP 1/10W 1K	1	
R2040		ERJ6GMYJ471	CHIP 1/10W 470	1	
R2051		ERJ6GMYJ103	CHIP 1/10W 10K	1	
R2101-03		ERDS2TJ560	C.RESISTOR 1/4W 56	3	
R2104		ERX12SJR47	M.RESISTOR 1/2W 0.47	1	
R2105		ERJ6GMYJ102	CHIP 1/10W 1K	1	
R2106		ERJ6GMYG561	M.RESISTOR CH1/10W 560	1	
R2107		ERJ6GMYG562	CHIP 1/10W 5.6K	1	
R2108		ERJ6GMYG472	M.RESISTOR CH1/10W 4.7K	1	
R2109		ERJ6GMYJ330	CHIP 1/10W 33	1	
R2201		ERDS2TJ122	C.RESISTOR 1/4W 1.2K	1	
R2202-04		ERDS2TJ150	C.RESISTOR 1/4W 15	3	
R2205		ERX12SJR68	M.RESISTOR 1/2W 0.68	1	
R2405		ERJ6GMYJ562	CHIP 1/10W 5.6K	1	
R3001		ERJ6GMYJ103	CHIP 1/10W 10K	1	
R3002		ERJ6GMYJ682	CHIP 1/10W 6.8K	1	
R3003		ERJ6GMYJ472	CHIP 1/10W 4.7K	1	
R3019		ERDS2TJ471	C.RESISTOR 1/4W 470	1	
R3022,23		ERJ6GMYJ821	CHIP 1/10W 820	2	
R3028		ERJ6GMYJ102	CHIP 1/10W 1K	1	
R3029		ERJ6GMYJ272	CHIP 1/10W 2.7K	1	
R3030		ERJ6GMYJ750	CHIP 1/10W 75	1	
R3042		ERJ6GMYJ102	CHIP 1/10W 1K	1	
R3062		ERJ6GMYJ223	CHIP 1/10W 22K	1	
R3063		ERJ6GMYJ103	CHIP 1/10W 10K	1	
R3071		ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R3085		ERJ6GMYJ221	CHIP 1/10W 220	1	
R3086		ERJ6GMYJ103	CHIP 1/10W 10K	1	
R3087,88		ERJ6GMYJ104	CHIP 1/10W 100K	2	
R3094		ERJ6GMY0R00	M.RESISTOR CH1/10W 0.00	1	
R3095		ERJ6GMYJ102	CHIP 1/10W 1K	1	
R3096		ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R3101		ERJ6GMYJ102	CHIP 1/10W 1K	1	
R3102		ERJ6GMYJ152	CHIP 1/10W 1.5K	1	
R3103		ERJ6GMYJ392	CHIP 1/10W 3.9K	1	
R3104		ERJ6GMYJ152	CHIP 1/10W 1.5K	1	
R3105		ERJ6GMYJ561	CHIP 1/10W 560	1	
R3901		ERJ6GMYJ750	CHIP 1/10W 75	1	
R3902		ERDS2TJ750	C.RESISTOR 1/4W 75	1	
R3903,04		ERJ6GMYJ242	M.RESISTOR CH1/10W 2.4K	2	
R3905		ERJ6GMY0R00	M.RESISTOR CH1/10W 0.00	1	
R3906		ERJ6GMYJ273	CHIP 1/10W 27K	1	
R3908		ERJ6GMYJ333	CHIP 1/10W 33K	1	
R3909		ERJ6GMYJ750	CHIP 1/10W 75	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R3910		ERDS2TJ750	C.RESISTOR 1/4W 75	1	
R3912		ERJ6GMYJ223	CHIP 1/10W 22K	1	
R3913		ERJ6GMYJ123	CHIP 1/10W 12K	1	
R3916		ERDS2T0	C.RESISTOR 1/4W 0	1	
R4001		ERJ6GMYJ100	CHIP 1/10W 10	1	
R4002		ERJ6GMYJ183	CHIP 1/10W 18K	1	
R4003		ERJ6GMYG223	M.RESISTOR CH1/10W 22K	1	
R4004		ERJ6GMYJ562	CHIP 1/10W 5.6K	1	
R4007		ERJ6GMYJ221	CHIP 1/10W 220	1	
R4008		ERJ6GMYJ122	CHIP 1/10W 1.2K	1	
R4010		ERJ6GMYJ683	CHIP 1/10W 68K	1	
R4012		ERJ6GMYJ331	CHIP 1/10W 330	1	
R4013		ERJ6GMYJ394	M.RESISTOR CH1/10W 390K	1	
R4014		ERJ6GMYG133	M.RESISTOR CH1/10W 13K	1	
R4016		ERJ6GMYJ105	CHIP 1/10W 1M	1	
R4017		ERJ6GMYJ302	M.RESISTOR CH1/10W 3K	1	
R4018		ERJ6GMYJ223	CHIP 1/10W 22K	1	
R4019		ERJ6GMYJ563	CHIP 1/10W 56K	1	
R4020		ERJ6GMYJ562	CHIP 1/10W 5.6K	1	
R4023		ERJ6GMYG473	CHIP 1/10W 47K	1	
R4024,25		ERJ6GMYG104	CHIP 1/10W 100K	2	
R4026		ERJ6GMYJ123	CHIP 1/10W 12K	1	
R4027		ERJ6GMYJ153	CHIP 1/10W 15K	1	
R4028		ERJ6GMYJ102	CHIP 1/10W 1K	1	
R4031		ERJ6GMYG272	M.RESISTOR CH1/10W 2.7K	1	
R4032		ERJ6GMYG622	M.RESISTOR CH1/10W 6.2K	1	
R4035		ERJ6GMYJ822	CHIP 1/10W 8.2K	1	
R4038		ERDS2TJ562	C.RESISTOR 1/4W 5.6K	1	
R4042		ERJ6GMYJ681	CHIP 1/10W 680	1	
R4044		ERJ6GMYG103	CHIP 1/10W 10K	1	
R6001-03		ERJ6GMYJ101	CHIP 1/10W 100	3	
R6004,05		ERJ6GMYJ333	CHIP 1/10W 33K	2	
R6006		ERJ6GMYJ332	CHIP 1/10W 3.3K	1	
R6007		ERJ6GMYJ122	CHIP 1/10W 1.2K	1	
R6008		ERJ6GMYJ561	CHIP 1/10W 560	1	
R6009		ERJ6GMYJ333	CHIP 1/10W 33K	1	
R6010		ERJ6GMYJ561	CHIP 1/10W 560	1	
R6011		ERJ6GMYJ333	CHIP 1/10W 33K	1	
R6012		ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R6013		ERJ6GMYJ683	CHIP 1/10W 68K	1	
R6014		ERJ6GMYJ473	CHIP 1/10W 47K	1	
R6015		ERJ6GMYJ101	CHIP 1/10W 100	1	
R6017		ERJ6GMYJ221	CHIP 1/10W 220	1	
R6018		ERJ6GMYJ131	CHIP 1/10W 130	1	
R6019		ERJ6GMYJ562	CHIP 1/10W 5.6K	1	
R6020		ERJ6GMYJ152	CHIP 1/10W 1.5K	1	
R6021		ERJ6GMYJ201	CHIP 1/10W 200	1	
R6022		ERG3SJ220	M.RESISTOR 3W 22	1	
R6023		ERJ6GMYJ471	CHIP 1/10W 470	1	
R6024		ERJ6GMYJ561	CHIP 1/10W 560	1	
R6025		ERJ6GMYJ391	CHIP 1/10W 390	1	
R6026		ERD2FCVG220	C.RESISTOR 2W 22	1	
R6028		ERJ6GMYJ103	CHIP 1/10W 10K	1	
R6029		ERDS2TJ152	C.RESISTOR 1/4W 1.5K	1	
R6039		ERJ6GMYJ473	CHIP 1/10W 47K	1	
R6040		ERJ6GMYJ562	CHIP 1/10W 5.6K	1	
R6041		ERJ6GMYJ332	CHIP 1/10W 3.3K	1	
R6042,43		ERJ6GMYJ222	CHIP 1/10W 2.2K	2	
R6044,45		ERJ6GMYJ221	CHIP 1/10W 220	2	
R6047		ERDS1TJ332	C.RESISTOR 1/2W 3.3K	1	
R6048		ERJ6GMYJ681	CHIP 1/10W 680	1	
R6049		ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R6053		ERG2SJ471	M.RESISTOR 2W 470	1	
R6054		ERJ6GMYJ104	CHIP 1/10W 100K	1	
R6055		ERJ6GMYJ101	CHIP 1/10W 100	1	
R6056		ERJ6GMYJ473	CHIP 1/10W 47K	1	
R6057		ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R6059		ERJ6GMYJ102	CHIP 1/10W 1K	1	
R6060		ERJ6GMYJ104	CHIP 1/10W 100K	1	
R6062		ERJ6GMYJ392	CHIP 1/10W 3.9K	1	
R6101		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R6102		ERJ6GEYJ333	CHIP 1/10W 33K	1	
R6103,04		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R7401		ERDS2TJ103	C.RESISTOR 1/4W 10K	1	
R7402		ERJ6GMYJ181	CHIP 1/10W 180	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R7656		ERJ6GEYJ221	CHIP 1/10W 220	1	
R7676		ERG1SJ332	M.RESISTOR 1W 3.3K	1	
T703		EIV5EC013A	TRANSFORMER	1	
T704		EIV5EC006A1	TRANSFORMER	1	
T710		EULBEF023	TRANSFORMER	1	
T711		EIS5EC004A	TRANSFORMER	1	
T4001		EIQ7QF014Q	TRANSFORMER	1	
VR302		EVN4YCA00B23	V.RESISTOR 2K	1	
VR701,02		EVM4LGA00B23	V.RESISTOR 2K	2	
VR741		EVNDRAA00B14	V.RESISTOR 10K	1	
VR751		EVNDRAA00B53	V.RESISTOR 5K	1	
VR803		EVNDRAA00B14	V.RESISTOR 10K	1	
VR2001		EVNDRAA00B54	V.RESISTOR 50K	1	
VR2010		EVND1AA00B25	V.RESISTOR 200K	1	
VR3012		EVNDRAA00B52	V.RESISTOR 500	1	
VR4002		EVNDRAA00B25	V.RESISTOR 200K	1	
X301		VSX0225	CRYSTAL OSCILLATOR	1	
X710		EFCH38MSP2	CRYSTAL OSCILLATOR	1	
X711		EFCS5R5MW5	CRYSTAL OSCILLATOR	1	
X712		EFCS5R5MS5	CRYSTAL OSCILLATOR	1	
X715		ELB5A043	CRYSTAL OSCILLATOR	1	
X716		EFCA31R90M1	CRYSTAL OSCILLATOR	1	
X717		EFCA40R40M1	CRYSTAL OSCILLATOR	1	
X801		VSX0162	CRYSTAL OSCILLATOR	1	
X3101		VSX0099	CRYSTAL OSCILLATOR	1	
X6101		VSX0244	CRYSTAL OSCILLATOR	1	
X7401		VSQ0565	SENSOR	1	
			MISCELLANEOUS		
		VMC0075	HEAT SINK SPRING	1	FOR IC2101
		VSC1689	HEAT SINK	1	FOR IC2101
		VSC1068	HEAT SINK	1	FOR Q6008
		VMA6768	EARTH ANGLE	1	
		ENC17954	RF CONVERTER	1	<!>
		VEJ0797	ANT. TERMINAL PLATE	1	
		VEJ0779	REAR JACK	1	
		VJF0260	CLAMPER	1	
		VMZ1130	HEAT SINK BARRIER	1	
		VJF0379	CLAMPER	1	
		VWJ14AW140MM	FLEXIBLE WIRE	1	(P7401 - P7501)
		VMC0462	EARTH SPRING	1	(FOR SUB MAIN)
		ENV57829H6	TUNER	1	<!> (FOR TV DEMODU.)
		VSC2713	SHIELD CASE (MAIN)	1	(FOR TV DEMODU.)
		VSC2712	SHIELD CASE (TOP)	1	(FOR TV DEMODU.)
		VSC2714	SHIELD CASE (BOTTOM)	1	(FOR TV DEMODU.)
	■	VEP03588AH	MAIN C.B.A.		NV-L20EV <!> (NIA)
			CAPACITORS		
C301		ECEA1EKN2R2	E.CAPACITOR 25V 2.2U	1	
C302		ECEA0JK220	E.CAPACITOR 6.3V 22U	1	
C303		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C304		ECEA0JU331	E.CAPACITOR 6.3V 330U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C305		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C306		ECEA1EK4R7	E.CAPACITOR 25V 4.7U	1	
C307		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C308		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C310		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C311,12		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	2	
C313		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C314		ECUM1H121JCN	C.CAPACITOR CH 50V 120P	1	
C315		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C317		ECEA1AK470U	E.CAPACITOR 10V 47U	1	
C319		ECUM1H471KBN	C.CAPACITOR CH 50V 470P	1	
C320		ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C321		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C322		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	1	
C324		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C325,26		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C327,28		ECEA1CK100	E.CAPACITOR 16V 10U	2	
C329		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C331		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C332		ECQV1H334JZ	P.CAPACITOR 50V 0.33U	1	
C333		ECEA1HK4R7	E.CAPACITOR 50V 4.7U	1	
C334		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C335		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C336		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C337		ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C338		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C339		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C340		ECEA1EK4R7	E.CAPACITOR 25V 4.7U	1	
C349		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C351		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C352		ECQB1H562JH	P.CAPACITOR 50V 5600P	1	
C353		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C360		ECUM1H153ZFN	C.CAPACITOR CH 50V 0.015U	1	
C361		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C701		ECEA1EK4R7	E.CAPACITOR 25V 4.7U	1	
C702		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C703		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	1	
C707		ECEA1HK0R1	E.CAPACITOR 50V 0.1U	1	
C708		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C710		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C715-20		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	6	
C721		ECEA1HKR27K	E.CAPACITOR 50V 0.27U	1	
C722		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C723		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C725		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C727		ECUM1H080DCN	C.CAPACITOR CH 50V 80P	1	
C728		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C730		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C731		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C732		ECQV1H224JZ	P.CAPACITOR 50V 0.22U	1	
C734		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C735		ECUM1H070DCN	C.CAPACITOR CH 50V 7P	1	
C736		ECQB1H103JH	P.CAPACITOR 50V 0.01U	1	
C737		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C739		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C740		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C741		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C742		ECUM1H030CCN	C.CAPACITOR CH 50V 3P	1	
C743		ECUM1H270RSN	C.CAPACITOR CH 50V 27P	1	
C744		ECEA1HKR47	E.CAPACITOR 50V 0.47U	1	
C745		ECUM1H680JPN	C.CAPACITOR CH 50V 68P	1	
C746		ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C748		ECEA1CK470U	E.CAPACITOR 16V 47U	1	
C749		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C760		ECQV1H473JZ	P.CAPACITOR 50V 0.047U	1	
C775		ECUM1H120JCN	C.CAPACITOR CH 50V 12P	1	
C781		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C782		ECUM1H060DCN	C.CAPACITOR CH 50V 6P	1	
C790		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C797,98		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C814		ECEA1AK101	E.CAPACITOR 10V 100U	1	
C815		ECQV1H154JZ	P.CAPACITOR 50V 0.15U	1	
C816		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C817		ECQV1H124JZ	P.CAPACITOR 50V 0.12U	1	
C818		ECUM1H471KBN	C.CAPACITOR CH 50V 470P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C819		ECUM1H820JCN	C.CAPACITOR CH 50V 82P	1	
C820		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	1	
C821		ECEA1HFS4R7	E.CAPACITOR 50V 4.7U	1	
C823		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	1	
C824		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C825		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C826		ECEA1AU221	E.CAPACITOR 10V 220U	1	
C827		ECUM1H050DCN	C.CAPACITOR CH 50V 5P	1	
C828		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C829		ECQV1H474JZ	P.CAPACITOR 50V 0.47U	1	
C831,32		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C833		ECUM1H471KBN	C.CAPACITOR CH 50V 470P	1	
C1001		ECEA1EK470	E.CAPACITOR 25V 47U	1	
C1003		ECEA0JK101U	E.CAPACITOR 6.3V 100U	1	
C1004		ECEA1CK470U	E.CAPACITOR 16V 47U	1	
C2001		ECEA0JK221	E.CAPACITOR 6.3V 220U	1	
C2002		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C2003		ECQB1H472JH	P.CAPACITOR 50V 4700P	1	
C2004		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2005		ECQV1H394JZ	P.CAPACITOR 50V 0.39U	1	
C2006		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C2007		ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C2008		ECEA1HKN010	E.CAPACITOR 50V 1U	1	
C2009		ECEA1CKN100	E.CAPACITOR 16V 10U	1	
C2010		ECEA1HKR47	E.CAPACITOR 50V 0.47U	1	
C2011		ECUM1H562KBN	C.CAPACITOR CH 50V 5600P	1	
C2012		VCYD1E473KR	S.CAPACITOR 25V 0.047U	1	
C2013		ECEA1HK4R7	E.CAPACITOR 50V 4.7U	1	
C2014		ECEA0JK221	E.CAPACITOR 6.3V 220U	1	
C2015		ECEA0JK101U	E.CAPACITOR 6.3V 100U	1	
C2016		VCYD1E223KR	S.CAPACITOR 25V 0.022U	1	
C2017		ECEA0JK221	E.CAPACITOR 6.3V 220U	1	
C2018		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C2019		ECEA1HKN2R2	E.CAPACITOR 50V 2.2U	1	
C2020		VCYD1E473KR	S.CAPACITOR 25V 0.047U	1	
C2022		ECEA1HKN2R2	E.CAPACITOR 50V 2.2U	1	
C2024		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C2025		ECQV1H683JZ	P.CAPACITOR 50V 0.068U	1	
C2026		ECQV1H224JZ	P.CAPACITOR 50V 0.22U	1	
C2027		ECEA1HKR47	E.CAPACITOR 50V 0.47U	1	
C2028		ECQB1H333JH	P.CAPACITOR 50V 0.033U	1	
C2029		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C2030		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C2031		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C2033		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2034		ECEA0JK330	E.CAPACITOR 6.3V 33U	1	
C2050		ECEA0JK221	E.CAPACITOR 6.3V 220U	1	
C2101-03		ECQB1H333JH	P.CAPACITOR 50V 0.033U	3	
C2104-06		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	3	
C2107,08		VCYD1E333KR	S.CAPACITOR 25V 0.033U	2	
C2111		ECEA1CK101	E.CAPACITOR 16V 100U	1	
C2115		ECEA1CK470U	E.CAPACITOR 16V 47U	1	
C2116		ECEA1EU221	E.CAPACITOR 25V 220U	1	
C2118		VCYD1E333KR	S.CAPACITOR 25V 0.033U	1	
C2121		ECQV1H184JZ	P.CAPACITOR 50V 0.18U	1	
C2201		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C2203		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C2204-06		ECEA1HK0R1	E.CAPACITOR 50V 0.1U	3	
C2207		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C2208-10		ECEA1VKN4R7	E.CAPACITOR 35V 4.7U	3	
C2211		ECQB1H473JH	P.CAPACITOR 50V 0.047U	1	
C2212		ECEA0JK101U	E.CAPACITOR 6.3V 100U	1	
C2213		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C3001		ECEA1CK470U	E.CAPACITOR 16V 47U	1	
C3002		ECEA0JU471	E.CAPACITOR 6.3V 470U	1	
C3003,04		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3010		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C3011		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3012		ECUM1H681KBN	C.CAPACITOR CH 50V 680P	1	
C3013		ECEA1HKN010	E.CAPACITOR 50V 1U	1	
C3014		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3015		VCYD1E103KR	S.CAPACITOR 25V 0.01U	1	
C3016		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C3017,18		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3019		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C3053		ECEA0JK101U	E.CAPACITOR 6.3V 100U	1	
C3064		ECQB1H103JH	P.CAPACITOR 50V 0.01U	1	
C3065		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3067,68		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3070		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3071		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C3076		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C3081		ECEA1CK220	E.CAPACITOR 16V 22U	1	
C3101		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C3102		ECEA1CK470U	E.CAPACITOR 16V 47U	1	
C3103,04		ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	2	
C3105		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C3901,02		ECEA1CK330U	E.CAPACITOR 16V 33U	2	
C3903		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C3904-06		ECEA1CK470U	E.CAPACITOR 16V 47U	3	
C3907,08		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	2	
C3909		ECEA1HKR47	E.CAPACITOR 50V 0.47U	1	
C3914		ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C3916		ECUM1H471KBN	C.CAPACITOR CH 50V 470P	1	
C4001		ECQB1H153JH	P.CAPACITOR 50V 0.015U	1	
C4002		ECEA16M33	E.CAPACITOR 16V 33U	1	
C4003		ECKF1H102ZF	C.CAPACITOR 50V 1000P	1	
C4004		ECQP1332JZ	P.CAPACITOR 100V 3300P	1	
C4005		ECCD2H121K	C.CAPACITOR 500V 120P	1	
C4006		ECEA1CK470U	E.CAPACITOR 16V 47U	1	
C4007		ECEA1CK330U	E.CAPACITOR 16V 33U	1	
C4008		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C4009		ECEA1EK4R7	E.CAPACITOR 25V 4.7U	1	
C4012		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C4013		ECUM1H681JN	C.CAPACITOR CH 50V 680P	1	
C4015		ECEA16M10	E.CAPACITOR 16V 10U	1	
C4016		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C4017		ECEA10M47	E.CAPACITOR 10V 47U	1	
C4018		ECQB1H822JH	P.CAPACITOR 50V 8200P	1	
C4019		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C4020		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C4021		ECEA1AK101	E.CAPACITOR 10V 100U	1	
C4022		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C4023		ECUN1H221JCN	C.CAPACITOR CH 50V 220P	1	
C4024,25		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	2	
C4026		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C4029		ECQB1H123JH	P.CAPACITOR 50V 0.012U	1	
C4033		ECQB1H102JH	P.CAPACITOR 50V 1000P	1	
C6001,02		ECEA0JK470	E.CAPACITOR 6.3V 47U	2	
C6005		ECEA1CK330U	E.CAPACITOR 16V 33U	1	
C6006		ECEA0JK330	E.CAPACITOR 6.3V 33U	1	
C6007		VCYD1C104MR1	S.CAPACITOR 16V 0.1U	1	
C6008		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6010		ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	1	
C6011,12		ECUM1H271JCN	C.CAPACITOR CH 50V 270P	2	
C6013		ECKF1H103ZF	C.CAPACITOR 50V 0.01U	1	
C6014		ECEA1CK220	E.CAPACITOR 16V 22U	1	
C6015		ECEA1CK330U	E.CAPACITOR 16V 33U	1	
C6021		ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	1	
C6022		ECKF1H103ZF	C.CAPACITOR 50V 0.01U	1	
C6025		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6028		ECKF1H332KB	C.CAPACITOR 50V 3300P	1	
C6029		ECKF1H103ZF	C.CAPACITOR 50V 0.01U	1	
C6101		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6102		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C6103		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C6104		ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C6105		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C6106		ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C7401		ECEA0JU221	E.CAPACITOR 6.3V 220U	1	
C7402		EECS5R5V473	E.CAPACITOR 5.5V 0.047	1	
C7404		ECKF1H223ZF	C.CAPACITOR 50V 0.022U	1	
C7409		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C7410		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7421		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7422		ECKF1H272KB	C.CAPACITOR 50V 2700P	1	
C7423		ECKF1H103ZF	C.CAPACITOR 50V 0.01U	1	
C7651		ECEA1CKN100	E.CAPACITOR 16V 10U	1	
C7653		ECQB1H332JH	P.CAPACITOR 50V 3300P	1	
C7668		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C7672		ECEA1HKS010	E.CAPACITOR 50V 1U	1	
C7801		ECQB1H102JH	P.CAPACITOR 50V 1000P	1	
C7802		ECQB1H471JH	P.CAPACITOR 50V 470P	1	
C7803		ECQB1H472JH	P.CAPACITOR 50V 4700P	1	
C7804		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C7805		ECQB1H103JH	P.CAPACITOR 50V 0.01U	1	
C7806		ECQB1H333JH	P.CAPACITOR 50V 0.033U	1	
C7815		VCYD1C104MR1	S.CAPACITOR 16V 0.1U	1	
C7816		ECEA0JKA331	E.CAPACITOR 6.3V 330U	1	
C7851		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C7852		ECEA1AK101	E.CAPACITOR 10V 100U	1	
C7853,54		ECCF1H330JC	C.CAPACITOR 50V 33P	2	
C7855,56		ECEA1HK010	E.CAPACITOR 50V 1U	2	
C7860		ECEA0JK101U	E.CAPACITOR 6.3V 100U	1	
D301		MA4091M	DIODE	1	
D710		MA3100L	DIODE	1	
D771		MA151WK	DIODE	1	
D772		MA165	DIODE	1	
D773		11ES1	DIODE	1	
D1001,02		MA165	DIODE	2	
D2003,04		MA165	DIODE	2	
D2007,08		MA165	DIODE	2	
D3001		MA165	DIODE	1	
D3009		MA165	DIODE	1	
D3101		MA165	DIODE	1	
D3102		MA27WA	DIODE	1	
D3901,02		MA165	DIODE	2	
D4003		MA165	DIODE	1	
D6001		MA4051	DIODE	1	
D6002-04		MA165	DIODE	3	
D6005		ERA15-01	DIODE	1	
D6006		MA165	DIODE	1	
D6008		MA723	DIODE	1	
D6009		MA4150L	DIODE	1	
D6021		MA723	DIODE	1	
D7401,02		MA723	DIODE	2	
D7672		MA3300H	DIODE	1	
D7851		MA165	DIODE	1	
DL802		EFDBR124A53T	DELAY	1	
FL301		ELB4M022	FILTER	1	
FL302		VLF0499	FILTER	1	
FL303		VLF0727	FILTER	1	
FL801		ELB4W002	FILTER	1	
FL3101		VLF0413	FILTER	1	
IC301		VEFH03D	HIC	1	
IC303		MSM6965-3RS	IC	1	
IC701		M51366SP	IC	1	
IC801		VEFH04F	IC	1	
IC2001		MN6740VCTK	IC	1	
IC2101		BA6435S	IC	1	
IC2201		AN3814K	IC	1	
IC3101		BA7004	IC	1	
IC3901		LA7150	IC	1	
IC4001		BA7766AS	IC	1	
IC6003		MN12821R	IC	1	
IC7801		SAA4700	IC	1	
IC7851		MN158413VHW	IC	1	
IC7852		MN1280S	IC	1	
J701		VJR0231	PACK PIN	1	
J702,03		VJR0406	PACK PIN	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
J704		VJR0231	PACK PIN	1	
L301		VLQEL05F101K	COIL 100UH	1	
L302		VLQEL05F220K	COIL 22UH	1	
L303,04		VLQEL05F101K	COIL 100UH	2	
L306		VLQEL05F101K	COIL 100UH	1	
L307		VLQEL05F151K	COIL 150UH	1	
L308		VLQEL05F270K	COIL 27UH	1	
L309,10		VLQEL05F101K	COIL 100UH	2	
L311		VLQEL05F2R2K	COIL 2.2UH	1	
L701,02		ELESP680KA	COIL 68UH	2	
L711		ELQTR68XB	COIL 0.68UH	1	
L712		VLQ0305J1R2	COIL 1.2UH	1	
L714		VLQ0305J1R2	COIL 1.2UH	1	
L715		VLQ0213K680	COIL 68UH	1	
L716		ELESP560KA	COIL 56UH	1	
L717,18		ELESP680KA	COIL 68UH	2	
L719		ELESP120KA	COIL 12UH	1	
L781		ELESP680KA	COIL 68UH	1	
L804		VLQ0213K150	COIL 15UH	1	
L805		VLQEL05F101K	COIL 100UH	1	
L806		VLQEL05F681K	COIL 680UH	1	
L808		VLQEL05F470K	COIL 47UH	1	
L809		VLQEL05F331K	COIL 330UH	1	
L810		VLQEL05F101K	COIL 100UH	1	
L811		VLQEL05F470K	COIL 47UH	1	
L812		VLQEL05F681K	COIL 680UH	1	
L2002		VLP0074	COIL	1	
L2003		VLQEL05F101K	COIL 100UH	1	
L2101		VLQEL05F102K	COIL 1000UH	1	
L3001-03		VLQEL05F101K	COIL 100UH	3	
L3005		VLQEL05F120K	COIL 12UH	1	
L3006		VLQEL05F6R8K	COIL 6.8UH	1	
L3007		VLQEL05F101K	COIL 100UH	1	
L3008		VLQEL05F3R3K	COIL 3.3UH	1	
L3101		VLQEL05F101K	COIL 100UH	1	
L3901		VLQEL05F1R0K	COIL 1UH	1	
L3902		VLQEL05F2R7K	COIL 2.7UH	1	
L4001		VLQEL07F822J	COIL 8200UH	1	
L4002		VLQEL05F471K	COIL 470UH	1	
L6101		VLQEL05F101K	COIL 100UH	1	
L7401		VLQEL05F1R0K	COIL 1UH	1	
L7402		VLQEL05F101K	COIL 100UH	1	
L7404		VLQEL05F1R0K	COIL 1UH	1	
L7405		VLQEL05F101K	COIL 100UH	1	
P001		VJS1237T	CONNECTOR	1	
P006		VJS1902	CONNECTOR (FEMALE)	1	
P501		VJS1237T	CONNECTOR	1	
P1001		VJF0171T	CONNECTOR	1	
P1001		VJP1393T	CONNECTOR (MALE) 13P	1	
P1101		VJF0171T	CONNECTOR	1	
P2001		VJP1932T	CONNECTOR (MALE)	1	
P2001		VJS1932T	CONNECTOR (FEMALE)	1	
P2201		VJP1237T	CONNECTOR (MALE) 10P	1	
P2201		VJS1237T	CONNECTOR	1	
P3001		VJP1237T	CONNECTOR (MALE) 10P	1	
P3001		VJS1237T	CONNECTOR	1	
P3902		VJS1469	CONNECTOR (FEMALE)	1	
P4001		VJP2622	CONNECTOR (MALE)	1	
P6001		VJS2571A012	CONNECTOR	1	
P6002		VJS2571A004	CONNECTOR	1	
P7401		VJS1662	CONNECTOR (FEMALE)	1	
P7402		VJS2571A015	CONNECTOR (FEMALE)	1	
PK1		VJR0189	PACK PIN	1	
PK2201		VJR0452	PACK PIN	1	
PK2202		VJR0348	PACK PIN	1	
PK3901		VJR0348	PACK PIN	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
PK3902		VJR0523	PACK PIN	1	
PK3903		VJR0348	PACK PIN	1	
PK3904		VJR0416	PACK PIN	1	
PK6101		VJR0277	PACK PIN	1	
Q301		2SB709	TRANSISTOR CHIP	1	(Q,R,S)
Q302,03		2SC2295	TRANSISTOR CHIP	2	(B,C)
Q304		2SD601	TRANSISTOR CHIP	1	(Q,R,S)
Q703		2SD601	TRANSISTOR	1	(S,T)
Q710		2SC2377	TRANSISTOR	1	(C,D)
Q712		2SD638	TRANSISTOR	1	
Q713		2SD1328	TRANSISTOR	1	
Q771		2SD601	TRANSISTOR CHIP	1	
Q804		2SB709	TRANSISTOR CHIP	1	(Q,R,S)
Q2001		2SD601	TRANSISTOR CHIP	1	(Q,R,S)
Q2002		2SD1330	TRANSISTOR	1	(S,T)
Q3001		2SC2295	TRANSISTOR	1	
Q3003		2SD601	TRANSISTOR CHIP	1	
Q3004		2SB709	TRANSISTOR CHIP	1	(Q,R,S)
Q3006		2SC2295	TRANSISTOR	1	
Q3007		2SB709	TRANSISTOR CHIP	1	(Q,R,S)
Q3101		2SD601	TRANSISTOR CHIP	1	
Q4001		2SD602	TRANSISTOR	1	(R)
Q6001		2SD893	TRANSISTOR	1	
Q6002,03		2SD973	TRANSISTOR	2	(S)
Q6004		2SD638	TRANSISTOR	1	
Q6006		2SB643	TRANSISTOR	1	
Q6007		2SB710	TRANSISTOR	1	(R,S)
Q6008		2SD1273	TRANSISTOR	1	(P,O)
Q6010		2SD637	TRANSISTOR	1	
Q6011		2SB709	TRANSISTOR CHIP	1	
Q6101		2SC2206	TRANSISTOR	1	(B,C)
QR701,02		UN2213	TRANSISTOR-RESISTOR	2	
QR711,12		UN2212	TRANSISTOR-RESISTOR	2	
QR714		UN2211	TRANSISTOR-RESISTOR	1	
QR1001		UN2213	TRANSISTOR-RESISTOR	1	
QR2002		DTC363EK	TRANSISTOR-RESISTOR	1	
QR2004		2SD1676	COMBINATION PARTS	1	
QR2005		UN2213	TRANSISTOR-RESISTOR	1	
QR3004		UN2111	TRANSISTOR-RESISTOR	1	
QR3008		UN2213	TRANSISTOR-RESISTOR	1	
QR4001		UN2213	TRANSISTOR-RESISTOR	1	
QR6002		UN2119	TRANSISTOR-RESISTOR	1	
QR6003		UN2113	TRANSISTOR-RESISTOR	1	
QR6004		UN2213	TRANSISTOR-RESISTOR	1	
QR6007		UN2212	TRANSISTOR-RESISTOR	1	
QR6011,12		UN2212	TRANSISTOR-RESISTOR	2	
QR7401		UN2211	TRANSISTOR-RESISTOR	1	
QR7851		UN1211	TRANSISTOR-RESISTOR	1	
QR7852		UN1213	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R301		ERJ6GMYJ122	CHIP 1/10W 1.2K	1	
R302		ERJ6GMYJ391	CHIP 1/10W 390	1	
R303		ERJ6GMYJ103	CHIP 1/10W 10K	1	
R304		ERJ6GMYJ102	CHIP 1/10W 1K	1	
R305		ERJ6GMYJ824	CHIP 1/10W 820K	1	
R306		ERJ6GMYJ152	CHIP 1/10W 1.5K	1	
R307		ERJ6GMYJ102	CHIP 1/10W 1K	1	
R308		ERJ6GMYJ123	CHIP 1/10W 12K	1	
R309		ERJ6GMYJ272	CHIP 1/10W 2.7K	1	
R310		ERJ6GMYJ103	CHIP 1/10W 10K	1	
R311		ERJ6GMYJ272	CHIP 1/10W 2.7K	1	
R312		ERJ6GMYJ182	CHIP 1/10W 1.8K	1	
R317		ERJ6GMYJ471	CHIP 1/10W 470	1	
R320		ERJ6GMYJ102	CHIP 1/10W 1K	1	
R325		ERJ6GMYJ151	CHIP 1/10W 150	1	
R326		ERJ6GMYJ822	CHIP 1/10W 8.2K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R327		ERJ6GMYJ332	CHIP 1/10W 3.3K	1	
R328		ERJ6GMYJ272	CHIP 1/10W 2.7K	1	
R329		ERJ6GMYJ103	CHIP 1/10W 10K	1	
R330		ERJ6GMYJ183	CHIP 1/10W 18K	1	
R331		ERJ6GMYJ561	CHIP 1/10W 560	1	
R332		ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R334,35		ERJ6GMYJ102	CHIP 1/10W 1K	2	
R338		ERJ6GMYJ124	CHIP 1/10W 120K	1	
R339		ERJ6GMYJ101	CHIP 1/10W 100	1	
R712		ERJ6GEYJ682	CHIP 1/10W 6.8K	1	
R713		ERJ6GEYJ681	CHIP 1/10W 680	1	
R714		ERD2FCG330	C.RESISTOR 2W 33	1	
R715		ERJ6GEYJ271	CHIP 1/10W 270	1	
R716		ERJ6GEYJ152	CHIP 1/10W 1.5K	1	
R717		ERJ6GEYJ332	CHIP 1/10W 3.3K	1	
R718		ERJ6GEYJ754	CHIP 1/10W 750K	1	
R719,20		ERJ6GEYJ682	CHIP 1/10W 6.8K	2	
R721		ERJ6GEYJ272	CHIP 1/10W 2.7K	1	
R722		ERJ6GEYJ332	CHIP 1/10W 3.3K	1	
R723		ERJ6GEYJ183	CHIP 1/10W 180K	1	
R724		ERDS2TJ101	C.RESISTOR 1/4W 100	1	
R725		ERJ6GEYJ182	CHIP 1/10W 1.8K	1	
R726		ERJ6GEYJ472	CHIP 1/10W 4.7K	1	
R727		ERJ6GEYJ471	CHIP 1/10W 470	1	
R728		ERDS2TJ471	C.RESISTOR 1/4W 470	1	
R729,30		ERJ6GEYJ331	CHIP 1/10W 330	2	
R737		ERJ6GEYJ274	CHIP 1/10W 270K	1	
R738		ERJ6GEYJ334	CHIP 1/10W 330K	1	
R739		ERJ6GEYJ681	CHIP 1/10W 680	1	
R740		ERJ6GEYJ473	CHIP 1/10W 47K	1	
R741		ERJ6GEYJ562	CHIP 1/10W 5.6K	1	
R743		ERJ6GEYJ470	CHIP 1/10W 47	1	
R744		ERJ6GEYJ821	CHIP 1/10W 820	1	
R745		ERJ6GEYJ331	CHIP 1/10W 330	1	
R746		ERDS2TJ181	C.RESISTOR 1/4W 180	1	
R747		ERJ6GEYJ471	CHIP 1/10W 470	1	
R750		ERJ6GEYJ182	CHIP 1/10W 1.8K	1	
R757		ERJ6GEYJ222	CHIP 1/10W 2.2K	1	
R758		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R759		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R763		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R764		ERJ6GEYJ822	CHIP 1/10W 8.2K	1	
R772		ERJ6GEYJ271	CHIP 1/10W 270	1	
R773		ERJ6GEYJ124	CHIP 1/10W 120K	1	
R774		ERJ6GEYJ104	CHIP 1/10W 100K	1	
R781		ERJ6GEYJ271	CHIP 1/10W 270	1	
R782		ERJ6GEYJ821	CHIP 1/10W 820	1	
R792		ERDS2TJ120	C.RESISTOR 1/4W 12	1	
R795		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R796		ERJ6GEYJ182	CHIP 1/10W 1.8K	1	
R815		ERJ6GMYJ103	CHIP 1/10W 10K	1	
R816		ERJ6GMYJ822	CHIP 1/10W 8.2K	1	
R818		ERJ6GMYJ102	CHIP 1/10W 1K	1	
R819		ERJ6GMYJ182	CHIP 1/10W 1.8K	1	
R820		ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R821		ERJ6GMYJ273	CHIP 1/10W 27K	1	
R822		ERJ6GMYJ183	CHIP 1/10W 18K	1	
R823		ERJ6GMYJ271	CHIP 1/10W 270	1	
R824		ERJ6GMYJ102	CHIP 1/10W 1K	1	
R825		ERJ6GMYJ182	CHIP 1/10W 1.8K	1	
R831		ERJ6GMYJ821	CHIP 1/10W 820	1	
R2001,02		ERJ6GMYJ102	CHIP 1/10W 1K	2	
R2004,05		ERJ6GMYJ223	CHIP 1/10W 22K	2	
R2006		ERJ6GMY0R00	M.RESISTOR CH1/10W 0.00	1	
R2007		ERJ6GMYJ332	CHIP 1/10W 3.3K	1	
R2008		ERJ6GMYJ102	CHIP 1/10W 1K	1	
R2009		ERJ6GMYJ393	CHIP 1/10W 39K	1	
R2010		ERJ6GMYJ103	CHIP 1/10W 10K	1	
R2011		ERJ6GMYJ152	CHIP 1/10W 1.5K	1	
R2012		ERJ6GMYJ221	CHIP 1/10W 220	1	
R2013		ERJ6GMYJ103	CHIP 1/10W 10K	1	
R2014		ERJ6GMYJ824	CHIP 1/10W 820K	1	
R2015,16		ERJ6GMYJ223	CHIP 1/10W 22K	2	
R2017		ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R2018		ERJ6GMYJ221	CHIP 1/10W 220	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R2019		ERJ6GMYJ124	CHIP 1/10W 120K	1	
R2020		ERJ6GMYJ821	CHIP 1/10W 820	1	
R2021		ERJ6GMYJ562	CHIP 1/10W 5.6K	1	
R2022		ERJ6GMYJ272	CHIP 1/10W 2.7K	1	
R2023		ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R2024		ERJ6GMYJ823	M.RESISTOR CH1/10W 82K	1	
R2025		ERJ6GMYG562	CHIP 1/10W 5.6K	1	
R2026		ERJ6GMYG392	M.RESISTOR CH1/10W 3.9K	1	
R2027		ERJ6GMYJ473	CHIP 1/10W 47K	1	
R2028		ERJ6GMYJ332	CHIP 1/10W 3.3K	1	
R2029		ERJ6GMYJ473	CHIP 1/10W 47K	1	
R2030		ERJ6GMYJ123	CHIP 1/10W 12K	1	
R2031		ERJ6GMYJ392	CHIP 1/10W 3.9K	1	
R2032		ERDS2TJ471	C.RESISTOR 1/4W 470	1	
R2034		ERJ6GMYJ104	CHIP 1/10W 100K	1	
R2037		ERJ6GMYJ103	CHIP 1/10W 10K	1	
R2038		ERJ6GMYJ102	CHIP 1/10W 1K	1	
R2040		ERJ6GMYJ471	CHIP 1/10W 470	1	
R2051		ERJ6GMYJ103	CHIP 1/10W 10K	1	
R2101-03		ERDS2TJ560	C.RESISTOR 1/4W 56	3	
R2104		ERX12SJR47	M.RESISTOR 1/2W 0.47	1	
R2105		ERJ6GMYJ102	CHIP 1/10W 1K	1	
R2106		ERJ6GMYG561	M.RESISTOR CH1/10W 560	1	
R2107		ERJ6GMYG562	CHIP 1/10W 5.6K	1	
R2108		ERJ6GMYG472	M.RESISTOR CH1/10W 4.7K	1	
R2109		ERJ6GMYJ330	CHIP 1/10W 33	1	
R2201		ERDS2TJ122	C.RESISTOR 1/4W 1.2K	1	
R2202-04		ERDS2TJ150	C.RESISTOR 1/4W 15	3	
R2205		ERX12SJR68	M.RESISTOR 1/2W 0.68	1	
R2405		ERJ6GMYJ562	CHIP 1/10W 5.6K	1	
R3001		ERJ6GMYJ103	CHIP 1/10W 10K	1	
R3002		ERJ6GMYJ682	CHIP 1/10W 6.8K	1	
R3003		ERJ6GMYJ472	CHIP 1/10W 4.7K	1	
R3019		ERDS2TJ471	C.RESISTOR 1/4W 470	1	
R3022,23		ERJ6GMYJ821	CHIP 1/10W 820	2	
R3028		ERJ6GMYJ102	CHIP 1/10W 1K	1	
R3029		ERJ6GMYJ272	CHIP 1/10W 2.7K	1	
R3030		ERJ6GMYJ750	CHIP 1/10W 75	1	
R3042		ERJ6GMYJ102	CHIP 1/10W 1K	1	
R3062		ERJ6GMYJ223	CHIP 1/10W 22K	1	
R3063		ERJ6GMYJ103	CHIP 1/10W 10K	1	
R3071		ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R3085		ERJ6GMYJ221	CHIP 1/10W 220	1	
R3086		ERJ6GMYJ103	CHIP 1/10W 10K	1	
R3087,88		ERJ6GMYJ104	CHIP 1/10W 100K	2	
R3094		ERJ6GMY0R00	M.RESISTOR CH1/10W 0.00	1	
R3095		ERJ6GMYJ102	CHIP 1/10W 1K	1	
R3096		ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R3101		ERJ6GMYJ102	CHIP 1/10W 1K	1	
R3102		ERJ6GMYJ152	CHIP 1/10W 1.5K	1	
R3103		ERJ6GMYJ392	CHIP 1/10W 3.9K	1	
R3104		ERJ6GMYJ152	CHIP 1/10W 1.5K	1	
R3105		ERJ6GMYJ561	CHIP 1/10W 560	1	
R3901		ERJ6GMYJ750	CHIP 1/10W 75	1	
R3902		ERDS2TJ750	C.RESISTOR 1/4W 75	1	
R3903,04		ERJ6GMYJ242	M.RESISTOR CH1/10W 2.4K	2	
R3905		ERJ6GMY0R00	M.RESISTOR CH1/10W 0.00	1	
R3906		ERJ6GMYJ273	CHIP 1/10W 27K	1	
R3908		ERJ6GMYJ333	CHIP 1/10W 33K	1	
R3909		ERJ6GMYJ750	CHIP 1/10W 75	1	
R3910		ERDS2TJ750	C.RESISTOR 1/4W 75	1	
R3912		ERJ6GMYJ223	CHIP 1/10W 22K	1	
R3913		ERJ6GMYJ123	CHIP 1/10W 12K	1	
R3916		ERDS2T0	C.RESISTOR 1/4W 0	1	
R4001		ERJ6GMYJ100	CHIP 1/10W 10	1	
R4002		ERJ6GMYJ183	CHIP 1/10W 18K	1	
R4003		ERJ6GMYG223	M.RESISTOR CH1/10W 22K	1	
R4004		ERJ6GMYJ562	CHIP 1/10W 5.6K	1	
R4007		ERJ6GMYJ221	CHIP 1/10W 220	1	
R4008		ERJ6GMYJ122	CHIP 1/10W 1.2K	1	
R4010		ERJ6GMYJ683	CHIP 1/10W 68K	1	
R4012		ERJ6GMYJ331	CHIP 1/10W 330	1	
R4013		ERJ6GMYJ394	M.RESISTOR CH1/10W 390K	1	
R4014		ERJ6GMYG133	M.RESISTOR CH1/10W 13K	1	
R4016		ERJ6GMYJ105	CHIP 1/10W 1M	1	
R4017		ERJ6GMYJ302	M.RESISTOR CH1/10W 3K	1	
R4018		ERJ6GMYJ223	CHIP 1/10W 22K	1	
R4019		ERJ6GMYJ563	CHIP 1/10W 56K	1	
R4020		ERJ6GMYJ562	CHIP 1/10W 5.6K	1	
R4023		ERJ6GMYG473	CHIP 1/10W 47K	1	
R4024,25		ERJ6GMYG104	CHIP 1/10W 100K	2	
R4026		ERJ6GMYJ123	CHIP 1/10W 12K	1	
R4027		ERJ6GMYJ153	CHIP 1/10W 15K	1	
R4028		ERJ6GMYJ102	CHIP 1/10W 1K	1	
R4031		ERJ6GMYG272	M.RESISTOR CH1/10W 2.7K	1	
R4032		ERJ6GMYG622	M.RESISTOR CH1/10W 6.2K	1	
R4035		ERJ6GMYJ822	CHIP 1/10W 8.2K	1	
R4038		ERDS2TJ562	C.RESISTOR 1/4W 5.6K	1	
R4042		ERJ6GMYJ681	CHIP 1/10W 680	1	
R4044		ERJ6GMYG103	CHIP 1/10W 10K	1	
R6001-03		ERJ6GMYJ101	CHIP 1/10W 100	3	
R6004,05		ERJ6GMYJ333	CHIP 1/10W 33K	2	
R6006		ERJ6GMYJ332	CHIP 1/10W 3.3K	1	
R6007		ERJ6GMYJ122	CHIP 1/10W 1.2K	1	
R6008		ERJ6GMYJ561	CHIP 1/10W 560	1	
R6009		ERJ6GMYJ333	CHIP 1/10W 33K	1	
R6010		ERJ6GMYJ561	CHIP 1/10W 560	1	
R6011		ERJ6GMYJ333	CHIP 1/10W 33K	1	
R6012		ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R6013		ERJ6GMYJ683	CHIP 1/10W 68K	1	
R6014		ERJ6GMYJ473	CHIP 1/10W 47K	1	
R6015		ERJ6GMYJ101	CHIP 1/10W 100	1	
R6017		ERJ6GMYJ221	CHIP 1/10W 220	1	
R6018		ERJ6GMYJ131	CHIP 1/10W 130	1	
R6019		ERJ6GMYJ562	CHIP 1/10W 5.6K	1	
R6020		ERJ6GMYJ152	CHIP 1/10W 1.5K	1	
R6021		ERJ6GMYJ201	CHIP 1/10W 200	1	
R6022		ERG3SJ220	M.RESISTOR 3W 22	1	
R6023		ERJ6GMYJ471	CHIP 1/10W 470	1	
R6024		ERJ6GMYJ561	CHIP 1/10W 560	1	
R6025		ERJ6GMYJ391	CHIP 1/10W 390	1	
R6026		ERD2FCVG220	C.RESISTOR 2W 22	1	
R6028		ERJ6GMYJ103	CHIP 1/10W 10K	1	
R6029		ERDS2TJ152	C.RESISTOR 1/4W 1.5K	1	
R6039		ERJ6GMYJ473	CHIP 1/10W 47K	1	
R6040		ERJ6GMYJ562	CHIP 1/10W 5.6K	1	
R6041		ERJ6GMYJ332	CHIP 1/10W 3.3K	1	
R6042,43		ERJ6GMYJ222	CHIP 1/10W 2.2K	2	
R6044,45		ERJ6GMYJ221	CHIP 1/10W 220	2	
R6047		ERDS1TJ332	C.RESISTOR 1/2W 3.3K	1	
R6048		ERJ6GMYJ681	CHIP 1/10W 680	1	
R6049		ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R6053		ERG2SJ471	M.RESISTOR 2W 470	1	
R6054		ERJ6GMYJ104	CHIP 1/10W 100K	1	
R6055		ERJ6GMYJ101	CHIP 1/10W 100	1	
R6056		ERJ6GMYJ473	CHIP 1/10W 47K	1	
R6057		ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R6059		ERJ6GMYJ102	CHIP 1/10W 1K	1	
R6060		ERJ6GMYJ104	CHIP 1/10W 100K	1	
R6062		ERJ6GMYJ392	CHIP 1/10W 3.9K	1	
R6101		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R6102		ERJ6GEYJ333	CHIP 1/10W 33K	1	
R6103,04		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R7401		ERDS2TJ103	C.RESISTOR 1/4W 10K	1	
R7402		ERJ6GMYJ181	CHIP 1/10W 180	1	
R7656		ERJ6GEYJ221	CHIP 1/10W 220	1	
R7676		ERG1SJ332	M.RESISTOR 1W 3.3K	1	
R7801		ERDS2TJ472	C.RESISTOR 1/4W 4.7K	1	
R7802		EROS2CKG7502	M.RESISTOR 1/4W 75K	1	
R7803,04		ERDS2TJ103	C.RESISTOR 1/4W 10K	2	
R7805		ERDS2TJ473	C.RESISTOR 1/4W 47K	1	
R7806		EROS2CKG3601	M.RESISTOR 1/4W 3.6K	1	
R7851		ERDS2TJ103	C.RESISTOR 1/4W 10K	1	
R7852		ERDS2TJ332	C.RESISTOR 1/4W 3.3K	1	
R7860		ERDS2TJ471	C.RESISTOR 1/4W 470	1	
T703		EIV5EC013A	TRANSFORMER	1	
T704		EIV5EC006A1	TRANSFORMER	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
T710		EULBEF023	TRANSFORMER	1	
T711		EIS5EC004A	TRANSFORMER	1	
T4001		EIQ7QF014Q	TRANSFORMER	1	
VR302		EVN4YCA00B23	V.RESISTOR 2K	1	
VR701,02		EVM4LGA00B23	V.RESISTOR 2K	2	
VR741		EVNDRAA00B14	V.RESISTOR 10K	1	
VR751		EVNDRAA00B53	V.RESISTOR 5K	1	
VR803		EVNDRAA00B14	V.RESISTOR 10K	1	
VR2001		EVNDRAA00B54	V.RESISTOR 50K	1	
VR2010		EVND1AA00B25	V.RESISTOR 200K	1	
VR3012		EVNDRAA00B52	V.RESISTOR 500	1	
VR4002		EVNDRAA00B25	V.RESISTOR 200K	1	
X301		VSX0225	CRYSTAL OSCILLATOR	1	
X710		EFCH38MSP2	CRYSTAL OSCILLATOR	1	
X711		EFCS5R5MW5	CRYSTAL OSCILLATOR	1	
X712		EFCS5R5MS5	CRYSTAL OSCILLATOR	1	
X715		ELB5A043	CRYSTAL OSCILLATOR	1	
X716		EFCA31R90M1	CRYSTAL OSCILLATOR	1	
X717		EFCA40R40M1	CRYSTAL OSCILLATOR	1	
X801		VSX0162	CRYSTAL OSCILLATOR	1	
X3101		VSX0099	CRYSTAL OSCILLATOR	1	
X6101		VSX0244	CRYSTAL OSCILLATOR	1	
X7401		VSQ0565	SENSOR	1	
X7851		EF0A4R0M03C2	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VMC0075	HEAT SINK SPRING	1	FOR IC2101
		VSC1689	HEAT SINK	1	FOR IC2101
		VSC1068	HEAT SINK	1	FOR Q6008
		VMA6768	EARTH SPRING	1	
		ENC17954	RF CONVERTER	1	<!>
		VEJ0797	ANT. TERMINAL PLATE	1	
		VEJ0779	REAR JACK	1	
		VJF0260	CLAMPER	1	
		VMZ1130	HEAT SINK BARRIER	1	
		VJF0379	CLAMPER	1	
		VWJ14AW140MM	FLEXIBLE WIRE	1	(P7401 - P7501)
		VMC0462	EARTH SPRING	1	(FOR SUB MAIN)
		ENV57829H6	TUNER	1	<!> (FOR TV DEMODU.)
		VSC2713	SHIELD CASE (MAIN)	1	(FOR TV DEMODU.)
		VSC2712	SHIELD CASE (TOP)	1	(FOR TV DEMODU.)
		VSC2714	SHIELD CASE (BOTTOM)	1	(FOR TV DEMODU.)
	■	VEP05137B	HEAD AMP C.B.A.		(NLA)
			CAPACITORS		
C501		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C502		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C505		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C507		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C508		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C510,11		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C512		ECUM1H820JCN	C.CAPACITOR CH 50V 82P	1	
C513		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C514		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C515		ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C516		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C517		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C518		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C523		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C524		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C525		VCYD1C104MR1	S.CAPACITOR 16V 0.1U	1	
C528		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C529		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C530		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C531		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C532		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C533		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C534		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C538		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C539		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C540		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C541		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C542		ECCF1H080DC	C.CAPACITOR 50V 8P	1	
IC501		BA7274S	IC	1	
L501		VLQEL05F101K	COIL 100UH	1	
L503		VLQEL05F270K	COIL 27UH	1	
L504		VLQEL05F101K	COIL 100UH	1	
L505		VLQEL05F820K	COIL 82UH	1	
L506		VLQEL05F151K	COIL 150UH	1	
P002		VJS1449	CONNECTOR (FEMALE)	1	
P501		VJP1237T	CONNECTOR (MALE) 10P	1	
Q501		2SB709	TRANSISTOR CHIP	1	(Q,R,S)
Q502		2SC2295	TRANSISTOR	1	
			RESISTORS		
R501		ERJ6GMYJ102	CHIP 1/10W 1K	1	
R503		ERJ6GMYJ152	CHIP 1/10W 1.5K	1	
R504		ERJ6GMYJ391	CHIP 1/10W 390	1	
R507		ERJ6GMYJ561	CHIP 1/10W 560	1	
R508		ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R509		ERJ6GMYJ102	CHIP 1/10W 1K	1	
R510		ERJ6GMYJ331	CHIP 1/10W 330	1	
R512		ERJ6GMYJ103	CHIP 1/10W 10K	1	
R513		ERJ6GMYJ330	CHIP 1/10W 33	1	
R518		ERJ6GMYJ330	CHIP 1/10W 33	1	
R519		ERJ6GMYJ471	CHIP 1/10W 470	1	
R523		ERJ6GMYJ821	CHIP 1/10W 820	1	
R524		ERJ6GMYJ100	CHIP 1/10W 10	1	
R525		ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R526		ERJ6GMYJ100	CHIP 1/10W 10	1	
R527		ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R528		ERJ6GMYJ821	CHIP 1/10W 820	1	
R532		ERJ6GMYJ100	CHIP 1/10W 10	1	
R533		ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R534-36		ERJ6GMYJ561	CHIP 1/10W 560	3	
VR501		EVND1AA00B23	V.RESISTOR 2K	1	
VR502		EVND1AA00B13	V.RESISTOR 1K	1	
			MISCELLANEOUS		
		VSC2353	SHIELD CASE (TOP)	1	
		VSC2355	SHIELD CASE (BOTTOM)	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VSC2354	SHIELD CASE (MAIN)	1	
	■	VEP07544D	TIMER C.B.A.		NV-L20EE (NLA)
			CAPACITORS		
C6701		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C6702		ECKF1H331KB	C.CAPACITOR 50V 330P	1	
C6703		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C6704		ECEA1HK3R3	E.CAPACITOR 50V 3.3U	1	
C7501		ECRHA030E41	TRIMMER	1	
C7502		ECUM1H100DCN	C.CAPACITOR CH 50V 10P	1	
C7503,04		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	2	
C7505		ECEA0JK221	E.CAPACITOR 6.3V 220U	1	
C7506		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C7507		ECEA1HKR22	E.CAPACITOR 50V 0.22U	1	
C7508,09		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C7510		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C7511		ECEA1HKA100	E.CAPACITOR 50V 10U	1	
C7512		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C7513		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
D6701		PN323B	PHOTO DIODE	1	
D7501		MA4068	DIODE	1	
D7502		MA165	DIODE	1	
D7507		MA165	DIODE	1	
D7513		MA165	DIODE	1	
D7516		MA165	DIODE	1	
D7530		MA165	DIODE	1	
D7532-35		MA165	DIODE	4	
D7537-41		MA165	DIODE	5	
D7556		LN38GCPP	LED	1	
D7557		LN28RCPP	LED	1	
DP7501		VSL0164	DISPLAY TUBE	1	
IC6701		UPC1490HA	IC	1	
IC7501		M37422V4AF	IC	1	
IC7502		MN1226	IC	1	
IC7503		MN1280L	IC	1	
IC7504		MN1280S	IC	1	
L7501		VLQEL05F221K	COIL 220UH	1	
P7501		VJS1492	CONNECTOR(FEMALE)	1	
P7502		VJS2174	CONNECTOR (FEMALE)	1	
P7505		VJS2652	CONNECTOR (FEMALE)	1	
Q7501		2SD601	TRANSISTOR CHIP	1	
QR7501		UN2213	TRANSISTOR-RESISTOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
QR7502		UN2212	TRANSISTOR-RESISTOR	1	
QR7525		UN2216	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R6701		ERDS2TJ124	C.RESISTOR 1/4W 120K	1	
R6702		ERDS2TJ8R2	C.RESISTOR 1/4W 8.2	1	
R7501		ERJ6GMYJ122	CHIP 1/10W 1.2K	1	
R7502		ERJ6GMYJ224	CHIP 1/10W 220K	1	
R7503		ERJ6GMYJ221	CHIP 1/10W 220	1	
R7504		ERJ6GMYJ101	CHIP 1/10W 100	1	
R7505		ERJ6GMYJ104	CHIP 1/10W 100K	1	
R7508-10		ERJ6GMYJ103	CHIP 1/10W 10K	3	
R7511		ERJ6GMYJ332	CHIP 1/10W 3.3K	1	
R7512		ERJ6GMYJ473	CHIP 1/10W 47K	1	
R7513		ERJ6GMYJ223	CHIP 1/10W 22K	1	
R7514		ERJ6GMYJ102	CHIP 1/10W 1K	1	
R7515-22		ERJ6GMYJ683	CHIP 1/10W 68K	8	
R7523-27		ERJ6GMYJ182	CHIP 1/10W 1.8K	5	
R7531,32		ERJ6GMYJ332	CHIP 1/10W 3.3K	2	
R7533		ERJ6GMYJ102	CHIP 1/10W 1K	1	
R7534		ERJ6GMYJ473	CHIP 1/10W 47K	1	
R7535		ERDS1TJ5R1	C.RESISTOR 1/2W 5.1	1	
R7538		ERJ6GMYJ103	CHIP 1/10W 10K	1	
R7541		ERJ6GMYK106	CHIP 1/10W 10M	1	
R7542		ERJ6GMYJ105	CHIP 1/10W 1M	1	
R7546		ERJ6GMYJ332	CHIP 1/10W 3.3K	1	
R7550,51		ERJ6GMYJ181	CHIP 1/10W 180	2	
R7552-54		ERJ6GMYJ182	CHIP 1/10W 1.8K	3	
R7555		ERJ6GMYJ103	CHIP 1/10W 10K	1	
R7556		ERJ6GMYJ333	CHIP 1/10W 33K	1	
R7557,58		ERJ6GMYJ221	CHIP 1/10W 220	2	
SW7504		EVQ11407K	SWITCH	1	
SW7516,17		EVQ11407K	SWITCH	2	
SW7527		EVQ11407K	SWITCH	1	
SW7532-46		EVQ11407K	SWITCH	15	
VR6701		EVMLGGA00B15	V.RESISTOR 100K	1	
X7501		VSX0140	CRYSTAL OSCILLATOR	1	
X7502		VSX0094	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VJF0706	FIP HOLDER	1	
		VMD0504	LED HOLDER	1	
		VMD1361	LED HOLDER	1	
		VSC2059	SHIELD CASE (MAIN)	1	(FOR IR RECEIVER)
		VSC1928	SHIELD CASE (BOTTOM)	1	(FOR IR RECEIVER)
	■	VEP07543A	TIMER C.B.A.		NV-L20EO/EV (NLA)
			CAPACITORS		
C6701		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C6702		ECKF1H331KB	C.CAPACITOR 50V 330P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C6703		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C6704		ECEA1HK3R3	E.CAPACITOR 50V 3.3U	1	
C7501		ECRHA030E41	TRIMMER	1	
C7502		ECUM1H080DCN	C.CAPACITOR CH 50V 8P	1	
C7503		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C7504		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C7505		ECEA0JK221	E.CAPACITOR 6.3V 220U	1	
C7506		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C7507		ECEA1HKR22	E.CAPACITOR 50V 0.22U	1	
C7508,09		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C7510		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C7511		ECEA1HKA100	E.CAPACITOR 50V 10U	1	
C7512		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C7513		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C7525		ECUM1H821KBN	C.CAPACITOR CH 50V 820P	1	
C7551		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
D6701		PN323B	PHOTO DIODE	1	
D7501		MA4068	DIODE	1	
D7504		MA165	DIODE	1	
D7507		MA165	DIODE	1	
D7510,11		MA165	DIODE	2	
D7513		MA165	DIODE	1	
D7516		MA165	DIODE	1	
D7530		MA165	DIODE	1	
D7532-35		MA165	DIODE	4	
D7537-41		MA165	DIODE	5	
D7556		LN38GCPP	LED	1	
D7557		LN28RCPP	LED	1	
DP7501		VSL0164	DISPLAY TUBE	1	
IC6701		UPC1490HA	IC	1	
IC7501		MN187125VHP	IC	1	
IC7502		MN12261	IC	1	
IC7503		MN1280L	IC	1	
IC7504		MN1280S	IC	1	
L7501		VLQEL05F221K	COIL 220UH	1	
P7501		VJS1492	CONNECTOR (FEMALE)	1	
P7502		VJS2174W	CONNECTOR	1	
P7505		VJS2652	CONNECTOR (FEMALE)	1	
Q7501		2SD601	TRANSISTOR CHIP	1	
QR7501		UN2213	TRANSISTOR-RESISTOR	1	
QR7502		UN2212	TRANSISTOR-RESISTOR	1	
QR7525		UN2216	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R6701		ERDS2TJ124	C.RESISTOR 1/4W 120K	1	
R6702		ERDS2TJ8R2	C.RESISTOR 1/4W 8.2	1	
R7501		ERJ6GMYJ122	CHIP 1/10W 1.2K	1	
R7502		ERJ6GMYJ224	CHIP 1/10W 220K	1	
R7504		ERJ6GMYJ101	CHIP 1/10W 100	1	
R7505		ERJ6GMYJ104	CHIP 1/10W 100K	1	
R7508-10		ERJ6GMYJ103	CHIP 1/10W 10K	3	
R7511		ERJ6GMYJ332	CHIP 1/10W 3.3K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R7512		ERJ6GMYJ473	CHIP 1/10W 47K	1	
R7513		ERJ6GMYJ223	CHIP 1/10W 22K	1	
R7514		ERJ6GMYJ102	CHIP 1/10W 1K	1	
R7523-27		ERJ6GMYJ182	CHIP 1/10W 1.8K	5	
R7530-32		ERJ6GMYJ332	CHIP 1/10W 3.3K	3	
R7533		ERJ6GMYJ102	CHIP 1/10W 1K	1	
R7534		ERJ6GMYJ473	CHIP 1/10W 47K	1	
R7535		ERDS1TJ5R1	C.RESISTOR 1/2W 5.1	1	
R7538		ERJ6GMYJ103	CHIP 1/10W 10K	1	
R7546		ERJ6GMYJ332	CHIP 1/10W 3.3K	1	
R7549		ERJ6GMYJ332	CHIP 1/10W 3.3K	1	
R7550,51		ERJ6GMYJ181	CHIP 1/10W 180	2	
R7552-54		ERJ6GMYJ182	CHIP 1/10W 1.8K	3	
R7555		ERJ6GMYJ103	CHIP 1/10W 10K	1	
R7561,62		ERJ6GMYJ221	CHIP 1/10W 220	2	
SW7504		EVQ11407K	SWITCH	1	
SW7516,17		EVQ11407K	SWITCH	2	
SW7527		EVQ11407K	SWITCH	1	
SW7532-46		EVQ11407K	SWITCH	15	
VR6701		EVMLGGA00B15	V.RESISTOR 100K	1	
X7501		VSX0140	CRYSTAL OSCILLATOR	1	
X7502		VSX0094	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VMD1361	LED HOLDER	1	
		VJF0706	FIP HOLDER	1	
		VMD0504	LED HOLDER	1	
		VSC2059	SHIELD CASE (MAIN)	1	(FOR IR RECEIVER)
		VSC1928	SHIELD CASE (BOTTOM)	1	(FOR IR RECEIVER)
	■	VEP06558E	OPERATION C.B.A.		NV-L20EE (NLA)
D6204		MA165	DIODE	1	
P6201		VJP2652	CONNECTOR (MALE)	1	
			RESISTORS		
R6202		ERJ6GMYJ102	CHIP 1/10W 1K	1	
SW6201-06		EVQ11407K	SWITCH	6	
SW6211,12		VSS0187	SWITCH	2	
SW6213		VSS0236	SWITCH	1	
VR3004		EWAKFKXC3B24	V.RESISTOR 20K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			MISCELLANEOUS		
		VGU4553	SWITCH KNOB	3	
	■	VEP06558B	OPERATION C.B.A.		NV-L20EO/EV (NLA)
P6201		VJP2652	CONNECTOR (MALE)	1	
			RESISTORS		
R6202		ERJ6GMYJ102	CHIP 1/10W 1K	1	
SW6201-06		EVQ11407K	SWITCH	6	
SW6211		VSS0187	SWITCH	1	
SW6213		VSS0236	SWITCH	1	
VR3004		EWAKFKXC3B24	V.RESISTOR 20K	1	
			MISCELLANEOUS		
		VGU4553	SWITCH KNOB	2	
	■	VEP01379J	POWER C.B.A.		NV-L20EE <!> (NLA)
			CAPACITORS		
C1101		ECQU2A224MN	P.CAPACITOR 100V 0.22U	1	
C1102		ECQU2A154MN	P.CAPACITOR 100V 0.15U	1	
C1108		ECOS2GU820	C.CAPACITOR 400V 80P	1	
C1109		ECEA2GG010	E.CAPACITOR 400V 1U	1	
C1110		ECQE6473JZ	P.CAPACITOR 630V 0.047U	1	
C1111		ECKD3D331KBN	C.CAPACITOR 2KV 330P	1	
C1113		ECQB1H472KZ	P.CAPACITOR 50V 4700P	1	
C1114		ECEA1CGE470	E.CAPACITOR 16V 47U	1	
C1115		ECQB1H472KZ	P.CAPACITOR 50V 4700P	1	
C1117		ECQP1101JZ	P.CAPACITOR 100V 100P	1	
C1118		ECEA1HGE101	E.CAPACITOR 50V 100U	1	
C1119,20		ECEA1DFZ681X	E.CAPACITOR 20V 680U	2	
C1121		ECEA1HGE100	E.CAPACITOR 50V 10U	1	
C1122		ECEA1AFZ331X	E.CAPACITOR 10V 330U	1	
C1123		ECEA1HGE100	E.CAPACITOR 50V 10U	1	
C1124,25		ECEA1AGE101	E.CAPACITOR 10V 100U	2	
C1126		ECEA1CGE470	E.CAPACITOR 16V 47U	1	
C1127		ECEA0JFZ471	E.CAPACITOR 6.3V 470U	1	
C1128-31		ECKF1H103ZF	C.CAPACITOR 50V 0.01U	4	
C1132		ECEA1CGE100	E.CAPACITOR 16V 10U	1	
C1134,35		ECKF1H103ZF	C.CAPACITOR 50V 0.01U	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C1136		ECQV1H105JZ	P.CAPACITOR 50V 1U	1	
C1137		ECQV1H223JS	P.CAPACITOR 50V 0.022U	1	
C1142		VCC0021	C.CAPACITOR	1	
C1145		VCC0021	C.CAPACITOR	1	
C1147		VCC0022	C.CAPACITOR 1000P	1	
C1149		ECKF1H821KB	C.CAPACITOR 50V 820P	1	
C1149		ECKF1H821KB	C.CAPACITOR 50V 820P	1	
D1101		SNR-300K4	SURGE ABSORBER	1	
D1102		S1WBA60	DIODE	1	
D1103		VSD0002	DIODE	1	
D1104		AP01C	DIODE	1	
D1105		MA178	DIODE	1	
D1106		MA4039	DIODE	1	
D1107		MA165	DIODE	1	
D1108		ERA22-02	DIODE	1	
D1109		RL2ZP	DIODE	1	
D1110		MA185	DIODE	1	
D1111		11EQS04	DIODE	1	
D1112		ERB83-004	DIODE	1	
D1113		MA2200B	DIODE	1	
D1114		MA4130L	DIODE	1	
IC1101		STRD1816	IC	1	
IC1102		STK5392	IC	1	
L1102		ELF18D221F	COIL	1	
L1103		VLQ0335	COIL	1	
P1101		VJP1394T	CONNECTOR(MALE)	1	
P1102		VJS2625	CONNECTOR	1	
Q1102		2SD1330	TRANSISTOR	1	
			RESISTORS		
R1101		ERC12AGM334	S.RESISTOR 1/2W 330K	1	
R1102,03		ERG2SJ823	M.RESISTOR 2W 82K	2	
R1104		ERDS2TJ562	C.RESISTOR 1/4W 5.6K	1	
R1106		ERG3ANJ683	M.RESISTOR 3W 68K	1	
R1108		ERD2FCG182	C.RESISTOR 1/4W 1.8K	1	
R1111		ERG2SJ181	M.RESISTOR 2W 180	1	
R1113		ERG1SJ182	M.RESISTOR 1W 1.8K	1	
R1114		ERDS2TJ103	C.RESISTOR 1/4W 10K	1	
R1118		ERDS2TJ1R0	C.RESISTOR 1/4W 1.0	1	
R1123,24		ERDS2TJ153	C.RESISTOR 1/4W 15K	2	
R1125		ERW1PK2R2	WIRE WOUND 2W 2.2	1	
T1101		VLT0571	TRANSFORMER	1	
			MISCELLANEOUS		
		VJF0318	FUSE HOLDER	2	
		VMZ1183	CAPACITOR COVER (A)	1	
		VMZ1184	CAPACITOR COVER (B)	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP01379E	POWER C.B.A.		NV-L20EO/EV <!> (NLA)
			CAPACITORS		
C1101		ECQU2A224MN	P.CAPACITOR 100V 0.22U	1	
C1102		ECQU2A154MN	P.CAPACITOR 100V 0.15U	1	
C1108		ECOS2GU820	C.CAPACITOR 400V 80P	1	
C1109		ECEA2GG010	E.CAPACITOR 400V 1U	1	
C1110		ECQE6473JZ	P.CAPACITOR 630V 0.047U	1	
C1111		ECKD3D331KBN	C.CAPACITOR 2KV 330P	1	
C1113		ECQB1H472KZ	P.CAPACITOR 50V 4700P	1	
C1114		ECEA1CGE470	E.CAPACITOR 16V 47U	1	
C1115		ECQB1H472KZ	P.CAPACITOR 50V 4700P	1	
C1117		ECQP1101JZ	P.CAPACITOR 100V 100P	1	
C1118		ECEA1HGE101	E.CAPACITOR 50V 100U	1	
C1119,20		ECEA1DFZ681X	E.CAPACITOR 20V 680U	2	
C1121		ECEA1HGE100	E.CAPACITOR 50V 10U	1	
C1122		ECEA1AFZ331X	E.CAPACITOR 10V 330U	1	
C1123		ECEA1HGE100	E.CAPACITOR 50V 10U	1	
C1124,25		ECEA1AGE101	E.CAPACITOR 10V 100U	2	
C1126		ECEA1CGE470	E.CAPACITOR 16V 47U	1	
C1127		ECEA0JFZ471	E.CAPACITOR 6.3V 470U	1	
C1128-31		ECKF1H103ZF	C.CAPACITOR 50V 0.01U	4	
C1132		ECEA1CGE100	E.CAPACITOR 16V 10U	1	
C1134,35		ECKF1H103ZF	C.CAPACITOR 50V 0.01U	2	
C1136		ECQV1H105JZ	P.CAPACITOR 50V 1U	1	
C1137		ECQV1H223JS	P.CAPACITOR 50V 0.022U	1	
C1140,41		VCK0046	C.CAPACITOR 1000P	2	
C1142		VCC0024	C.CAPACITOR 2200P	1	
C1143,44		VCK0046	C.CAPACITOR 1000P	2	
C1145		VCC0024	C.CAPACITOR 2200P	1	
C1146		VCK0046	C.CAPACITOR 1000P	1	
C1147		VCC0024	C.CAPACITOR 2200P	1	
C1148		VCK0046	C.CAPACITOR 1000P	1	
C1149		ECKF1H821KB	C.CAPACITOR 50V 820P	1	
C1149		ECKF1H821KB	C.CAPACITOR 50V 820P	1	
D1101		SNR-300K4	SURGE ABSORBER	1	
D1102		S1WBA60	DIODE	1	
D1103		VSD0002	DIODE	1	
D1104		AP01C	DIODE	1	
D1105		MA178	DIODE	1	
D1106		MA4039	DIODE	1	
D1107		MA165	DIODE	1	
D1108		ERA22-02	DIODE	1	
D1109		RL2ZP	DIODE	1	
D1110		MA185	DIODE	1	
D1111		11EQS04	DIODE	1	
D1112		ERB83-004	DIODE	1	
D1113		MA2200B	DIODE	1	
D1114		MA4130L	DIODE	1	
IC1101		STRD1816	IC	1	
IC1102		STK5392	IC	1	
L1102		ELF18D221F	COIL	1	
L1103		VLQ0335	COIL	1	
P1101		VJP1394T	CONNECTOR(MALE)	1	
P1102		VJS2625	CONNECTOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
Q1102		2SD1330	TRANSISTOR	1	
			RESISTORS		
R1101		ERC12AGM334	S.RESISTOR 1/2W 330K	1	
R1102,03		ERG2SJ823	M.RESISTOR 2W 82K	2	
R1104		ERDS2TJ562	C.RESISTOR 1/4W 5.6K	1	
R1106		ERG3ANJ683	M.RESISTOR 3W 68K	1	
R1108		ERD2FCG182	C.RESISTOR 1/4W 1.8K	1	
R1111		ERG2SJ181	M.RESISTOR 2W 180	1	
R1113		ERG1SJ182	M.RESISTOR 1W 1.8K	1	
R1114		ERDS2TJ103	C.RESISTOR 1/4W 10K	1	
R1118		ERDS2TJ1R0	C.RESISTOR 1/4W 1.0	1	
R1123,24		ERDS2TJ153	C.RESISTOR 1/4W 15K	2	
R1125		ERW1PK2R2	WIRE WOUND 2W 2.2	1	
T1101		VLT0571	TRANSFORMER	1	
			MISCELLANEOUS		
		VJF0318	FUSE HOLDER	2	
		VMZ1361	CAPACITOR COVER (A)	1	
		VMZ0913	CAPACITOR COVER (B)	1	
	■	VXA3554	MECHANISM CONNECTION C.B.A.		(NLA)
D1501		GL450	LED	1	
IC1501		ON2170	IC	1	
R1501,02		ERJ8GCYJ223	CHIP 1/8W 22K	2	
P1504		VJS2342W	CONNECTOR 13P	1	
P1505		VJP1242T	CONNECTOR 2P	1	
			MISCELLANEOUS		
		VMB2020	EARTH SPRING	1	
		VMD0911	LED HOLDER	1	
		VSS0175	MODE SW	1	
		VES0489	SAFETY SW	1	
		VMA7844	REINFORCEMENT PLATE (F)	1	
		VMA7845	REINFORCEMENT PLATE (R)	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEK3578	SUPPLY PHOTO Tr. C.B.A.		(NLA)
C1501		ECKF1H102KB	C.CAPACITOR 50V 1000P	1	
Q1501		PN150NVS	TRANSISTOR	1	
			MISCELLANEOUS		
		VMD0645	PHOTO Tr. HOLDER	1	
			TAKE-UP PHOTO Tr. C.B.A.		
C1502		ECKF1H102KB	C.CAPACITOR 50V 1000P	1	
P1503		VJS2165W	CONNECTOR 6P	1	
Q1502		PN150NVS	TRANSISTOR	1	
R1503		ERDS2TJ222	C.RESISTOR 1/4W 2.2K	1	
			MISCELLANEOUS		
		VMD0645	PHOTO Tr. HOLDER	1	
	■	VEP66079F	REMOTE CONTROL UNIT C.B.A.		NV-L20EE (NLA)
			CAPACITORS		
C6801		ECEA1AKA470	E.CAPACITOR 10V 47U	1	
C6802		ECUM1E104ZFM	C.CAPACITOR CH 25V 0.1U	1	
C6803		ECEV1CAN4R7	E.CAPACITOR 16V 4.7U	1	
C6804		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C6805,06		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	2	
C6807-09		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	3	
C6810-12		ECUM1E104ZFM	C.CAPACITOR CH 25V 0.1U	3	
D6801		SE303ACYTF	DIODE	1	
D6802-12		MA221	DIODE	11	
D6818		MA221	DIODE	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
IC6801		MN158453VHM	IC	1	
IC6802		AN8355S	IC	1	
L6801		ELT3K017B	COIL	1	
Q6801		2SB710	TRANSISTOR CHIP	1	(Q,R,S)
Q6802		2SB709	TRANSISTOR CHIP	1	(Q,R,S)
Q6803		2SD601	TRANSISTOR CHIP	1	(Q,R,S)
QR6802		FA1A4M	TRANSISTOR-RESISTOR	1	
QR6803		FA1L4Z	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R14		ERJ6GMYJ473	CHIP 1/10W 47K	1	
R15		ERJ6GMYJ153	M.RESISTOR CH1/10W 15K	1	
R16		ERJ6GMYJ334	M.RESISTOR CH1/10W 330K	1	
R6801		ERJ6GMYJ224	CHIP 1/10W 220K	1	
R6802-04		ERJ6GMYJ474	CHIP 1/10W 470K	3	
R6805,06		ERJ6GMYJ682	CHIP 1/10W 6.8K	2	
R6807		ERJ8GCYJ120	M.RESISTOR CH 1/8W 12	1	
R6808		ERJ8GCYJ150	M.RESISTOR CH 1/8W 15	1	
R6809		ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R6810		ERJ6GMYJ224	CHIP 1/10W 220K	1	
R6811		ERJ6GMYJ684	CHIP 1/10W 680K	1	
R6812		ERJ6GMYJ563	CHIP 1/10W 56K	1	
R6813		ERJ6GMYJ120	CHIP 1/10W 12	1	
SN6801		VSQ0567	SENSOR	1	
VR6801		EVNDXAA03B34	V.RESISTOR 30K	1	
X6801		VSX0245	CRYSTAL OSCILLATOR	1	
X6802		EFBAL30D001K	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VGQ1406	TERMINAL BASE	1	
		VJR0401	TERMINAL ANGLE	1	
	■	VEP66079G	REMOTE CONTROL UNIT C.B.A.		NV-L20EO/EV (NLA)
			CAPACITORS		
C6801		ECEA1AKA470	E.CAPACITOR 10V 47U	1	
C6802		ECUM1E104ZFM	C.CAPACITOR CH 25V 0.1U	1	
C6803		ECEV1CAN4R7	E.CAPACITOR 16V 4.7U	1	
C6804		ECEA1HK010	E.CAPACITOR 50V 1U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C6805,06		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	2	
C6807-09		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	3	
C6810-12		ECUM1E104ZFM	C.CAPACITOR CH 25V 0.1U	3	
D6801		SE303ACYTF	DIODE	1	
D6802-11		MA221	DIODE	10	
D6813		MA221	DIODE	1	
D6818		MA221	DIODE	1	
IC6801		MN158453VHM	IC	1	
IC6802		AN8355S	IC	1	
L6801		ELT3K017B	COIL	1	
Q6801		2SB710	TRANSISTOR CHIP	1	(Q,R,S)
Q6802		2SB709	TRANSISTOR CHIP	1	(Q,R,S)
Q6803		2SD601	TRANSISTOR CHIP	1	(Q,R,S)
QR6802		FA1A4M	TRANSISTOR-RESISTOR	1	
QR6803		FA1L4Z	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R14		ERJ6GMYJ473	M.RESISTOR CH1/10W 47K	1	
R15		ERJ6GMYJ153	M.RESISTOR CH1/10W 15K	1	
R16		ERJ6GMYJ334	M.RESISTOR CH1/10W 330K	1	
R6801		ERJ6GMYJ224	CHIP 1/10W 220K	1	
R6802-04		ERJ6GMYJ474	CHIP 1/10W 470K	3	
R6805,06		ERJ6GMYJ682	CHIP 1/10W 6.8K	2	
R6807		ERJ8GCYJ120	M.RESISTOR CH 1/8W 12	1	
R6808		ERJ8GCYJ150	M.RESISTOR CH 1/8W 15	1	
R6809		ERJ6GMYJ222	CHIP 1/10W 2.2K	1	
R6810		ERJ6GMYJ224	CHIP 1/10W 220K	1	
R6811		ERJ6GMYJ684	CHIP 1/10W 680K	1	
R6812		ERJ6GMYJ563	CHIP 1/10W 56K	1	
R6813		ERJ6GMYJ120	CHIP 1/10W 12	1	
SN6801		VSQ0567	SENSOR	1	
VR6801		EVNDXAA03B34	V.RESISTOR 30K	1	
X6801		VSX0245	CRYSTAL OSCILLATOR	1	
X6802		EFBAL30D001K	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VGQ1406	TERMINAL BASE	1	
		VJR0401	TERMINAL ANGLE	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks

3. VW-VPS5
Mechanical Replacement Parts List

Note:1.* Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VQT3254	OPERATING INSTRUCTIONS	1	

4. VW-VPS5
Electrical Replacement Parts List

Note:1.* Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.
3.Unless otherwise specified,
All resistors are in OHMS ,K=1,000 OHMS. All capacitors are in MICRO-FARADS(uf),P=uuF.
4.The P.C.Board units marked width'▮'show below the main assembled parts.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	▮	VEP07538B	VPS C.B.A.		(NLA)
			CAPACITORS		
C7801		ECQB1H102JH	P.CAPACITOR 50V 1000P	1	
C7802		ECQB1H471JH	P.CAPACITOR 50V 470P	1	
C7803		ECQB1H472JH	P.CAPACITOR 50V 4700P	1	
C7804		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C7805		ECQB1H103JH	P.CAPACITOR 50V 0.01U	1	
C7806		ECQB1H333JH	P.CAPACITOR 50V 0.033U	1	
C7815		VCYD1C104MR1	S.CAPACITOR 16V 0.1U	1	
C7816		ECEA0JKA331	E.CAPACITOR 6.3V 330U	1	
C7851		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C7852		ECEA1AK101	E.CAPACITOR 10V 100U	1	
C7853,54		ECCF1H330JC	C.CAPACITOR 50V 33P	2	
C7855,56		ECEA1HK010	E.CAPACITOR 50V 1U	2	
C7860		ECEA0JK101U	E.CAPACITOR 6.3V 100U	1	
D7851		MA165	DIODE	1	
IC7801		SAA4700	IC	1	
IC7851		MN158413VHW	IC	1	
IC7852		MN1280S	IC	1	
PK1		VJR0189	PACK PIN	1	
QR7851		UN1211	TRANSISTOR-RESISTOR	1	
QR7852		UN1213	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R7801		ERDS2TJ472	C.RESISTOR 1/4W 4.7K	1	
R7802		EROS2CKG7502	M.RESISTOR 1/4W 75K	1	
R7803,04		ERDS2TJ103	C.RESISTOR 1/4W 10K	2	
R7805		ERDS2TJ473	C.RESISTOR 1/4W 47K	1	
R7806		EROS2CKG3601	M.RESISTOR 1/4W 3.6K	1	
R7851		ERDS2TJ103	C.RESISTOR 1/4W 10K	1	
R7852		ERDS2TJ332	C.RESISTOR 1/4W 3.3K	1	
R7860		ERDS2TJ471	C.RESISTOR 1/4W 470	1	
X7851		EF0A4R0M03C2	CRYSTAL OSCILLATOR	1	

SERVICE MANUAL

VIDEO

(D) Btx *32700 #

Laufwerk G 2

(3-Motoren-Laufwerk)

Drive Mechanism G 2

(3-motor drive mechanism)

(D)

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(GB)

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Meßgeräte / Meßmittel	**Test equipment / aids**	z.B. / e.g. **GRUNDIG**
Zweikanaloszilloskop	Dual channel oscilloscope	MO 20, MO 53
Regeltrenntrafo	Variable isolating transformer	RT 5 A
		Sach-Nr. / Part no
Kopfscheibenabzieher (VFK 0341)	Head wheel extractor (VFK 0341)	75987 - 262.96
Referenzplatte (VFK 0387)	Tension post adjustment plate (VFK 0387)	75987 - 262.86
Einstellplatte (VFK 0191)	Post adjustment plate (VFK 0191)	75987 - 262.75
Höhenmeßuhr (VFK 0190)	Dial hight gauge (VFK 0190)	75987 - 262.76
Höhenlehre (VFK 0344)	Hight gauge (VFK 0344)	75987 - 262.87
Bandzugmesser (VFK 0132)	Tape tension meter (VFK 0132)	75987 - 262.74
Kontaktor (0,1N...1N)	Tension gauge (0.1N...1N)	72001 - 401.00
Kontaktor (0,5N...5N)	Tension gauge (0.5N...5N)	72001 - 403.00
Einstellschraubendreher	Post adjustment screw driver	75987 - 262.80
Sechskant-Stiftschlüssel 2mm	Hexagonal wrench 2mm	72004 - 082.00
Testcassette	Test cassette	9.27540 - 1011
Testcassette (HiFi)	Test cassette (HiFi)	9.27540 - 1016

Die Meßmittel können Sie über die Serviceorganisation beziehen. Wir weisen jedoch darauf hin, daß diese z.T. bereits am Markt eingeführt sind.

You can order the test equipments from the Service organization. We refer to you that these test equipments are already obtainable on the market.

1. Absenken des Cassettenschachtes von Hand (ohne Cassette)

- Netzstecker ziehen.
- Riemenscheibe (137) ca. 3 Umdrehungen im Uhrzeigersinn drehen.
- Sicherungshebel Ⓟ ausrasten (Fig. 1).
- Riemenscheibe (137) um eine Umdrehung weiterdrehen.
- Hebel Ⓠ nach unten drücken und Sicherungshebel Ⓟ erneut ausrasten.
- Cassettenschacht durch Weiterdrehen der Riemenscheibe (137) vollständig absenken

1. Lowering the Cassette Compartment by Hand (without cassette)

- Disconnect the machine from mains.
- Rotate the drive belt pulley (137) approx. 3 revolutions in the clockwise direction.
- Release the locking lever Ⓟ (Fig. 1).
- Rotate the drive belt pulley (137) by one more revolution.
- Push the lever Ⓠ down and release the locking lever Ⓟ once again.
- Lower the cassette compartment fully by rotating the drive belt pulley (137) further in a clockwise direction.

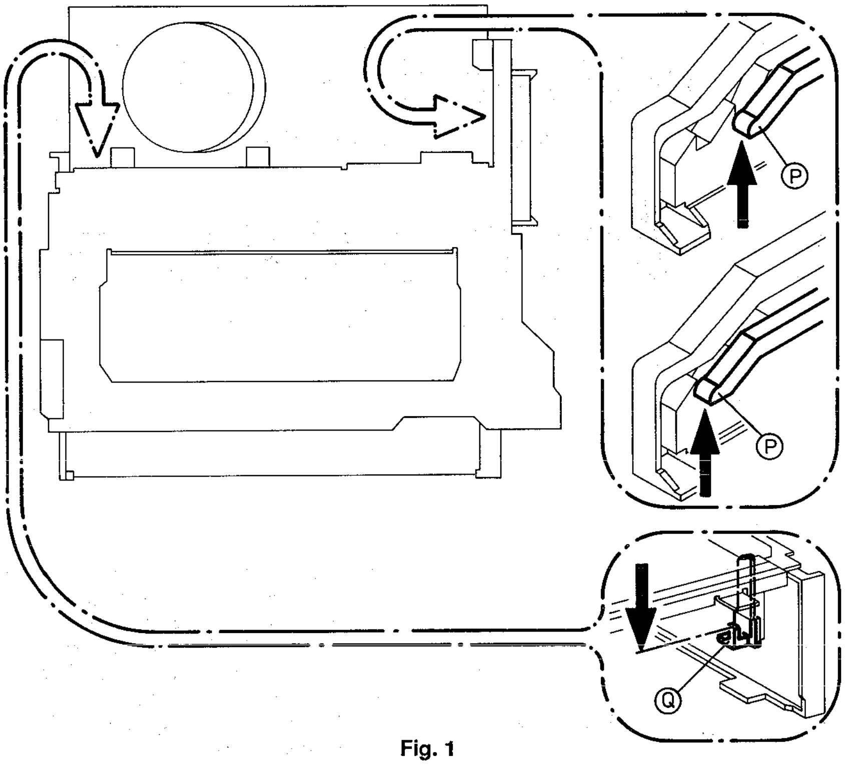


Fig. 1

2. Cassettenauswurf von Hand

a) Netzstecker ziehen
b) Umstellhebel (122) durch Drücken in Pfeilrichtung (Fig. 2) ausrasten.
c) Capstanrotor langsam gegen den Uhrzeigersinn drehen, bis die Kupplungsscheibe (116) einrastet.
d) Schritte b) und c) wiederholen bis die Cassette ausgeworfen wird.

2. Ejecting the Cassette by Hand

a) Disconnect the machine from the mains.
b) Disengage the change-over lever (122) by pressing it in the direction of the arrow (Fig. 2).
c) Rotate the capstan rotor slowly anti-clockwise until the clutch disk (116) locks.
d) Repeat steps b) and c) until the cassette is ejected.

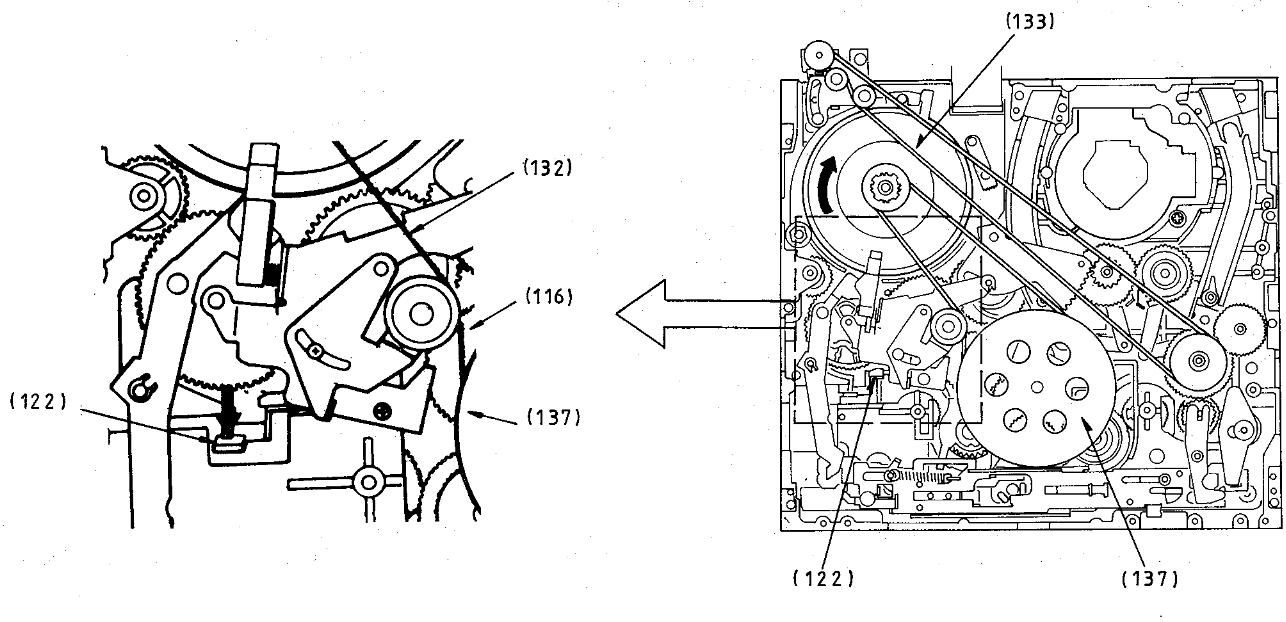


Fig. 2

3. Ausbau des Cassettenschachts

- 2 Schrauben "A" herausdrehen (Fig. 3).
- Cassettenschacht durch Drehen des Capstanrotors (133) im Uhrzeigersinn soweit bewegen, bis die 2 Schrauben "B" entfernt werden können.
- Steckverbindung P1508 abziehen und Cassettenschacht herausnehmen.

4. Einbau des Cassettenschachtes

- Umstellhebel (122), Fig. 2, oder Kern der Spule (66), Fig. 4, in Pfeilrichtung drücken, um die Verriegelung zu öffnen.
- Capstanrotor entgegen dem Uhrzeigersinn drehen bis die Mechanik die Stellung "Auswerfen" erreicht hat (Endanschlag).
- Lage des Markierungslochs ⓐ oder der Markierungsnase ⓓ des Zwischenrades (65) merken (Fig. 5) und Capstanrotor in entgegengesetzter Richtung solange drehen, bis das Zwischenrad (65) eine Umdrehung entgegen dem Uhrzeigersinn gemacht hat.
- Cassettenschacht soweit verschieben, bis der 2. Zahn der Zahnstange (224) über dem rechtwinkligen Loch "C" liegt (Fig. 6).
- Gegebenenfalls 2 Schrauben "D" herausdrehen und Abdeckplatte (201) entfernen, sodaß die Zahnstange (224) und das Zwischenrad (65) beim Einbau zu sehen sind.
- Cassettenschacht so in das Laufwerk einsetzen, daß der 2. Zahn der Zahnstange (224) in der 5. Zahnlücke des Zwischenrades (65) eingreift (Fig. 7). Gegebenenfalls Cassettenschacht geringfügig verschieben.
- Abdeckplatte (201) montieren und die 6 Schrauben in der Reihenfolge "D", "A", "B" eindrehen (Fig. 3, Fig. 6)
- Steckverbindung P 1508 kontaktieren

Hinweis:
Falls die Schachtfunktionen nicht richtig ausgeführt werden, Einbau wiederholen.

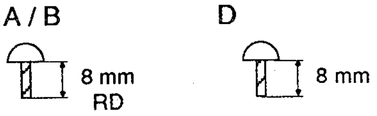
3. Removing the Cassette Compartment

- Remove the 2 screws "A" (Fig. 3).
- Rotate the capstan rotor (133) to move the cassette compartment so that it is possible to remove the 2 screws "B".
- Pull out the plug-type connector P1508 and remove the cassette compartment.

4. Refitting the Cassette Compartment

- Press the change-over lever (122), Fig. 2, or the core of the solenoid (66), Fig. 4, in the direction of the arrow to disengage the lever.
- Rotate the capstan rotor in the anti-clockwise direction until the mechanics reaches the "Eject" position (end stop).
- Note the position of the marking hole ⓐ or the marking lug ⓓ on the intermediate gear (65), Fig. 5, and rotate the capstan rotor in the opposite direction until the intermediate gear (65) makes one complete revolution in anti-clockwise direction.
- Move the cassette compartment so that the 2nd tooth of the toothed rack (224) is positioned over the right ancled hole "C" (Fig. 6).
- If necessary, remove the 2 screws "D" and remove the top plate (201) so that the toothed rack (224) and the intermediate gear (65) can be seen during assembly.
- Insert the cassette compartment into the mechanics so that the 2nd tooth of the toothed rack (224) engages with the 5th tooth space of the intermediate gear (65) (Fig. 7). If necessary move the cassette by a small amount.
- Fit the top plate (201) and tighten the 6 screws in the sequence "D", "A", "B" (Fig.3, Fig.6).
- Reconnect the plug connector P1508.

Note:
If the functions of the cassette compartment are not carried out correctly, repeat the assembly procedure.



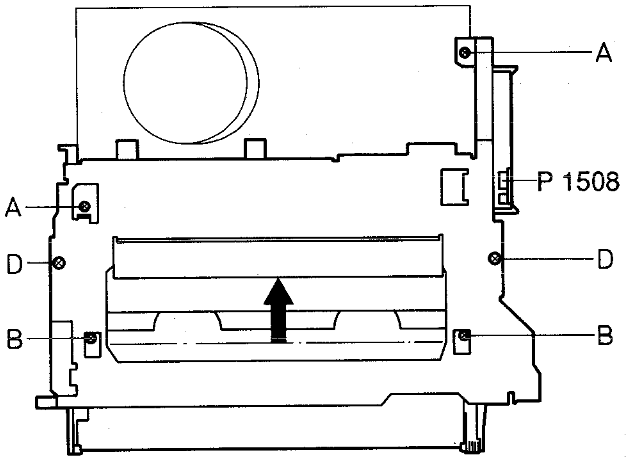


Fig. 3

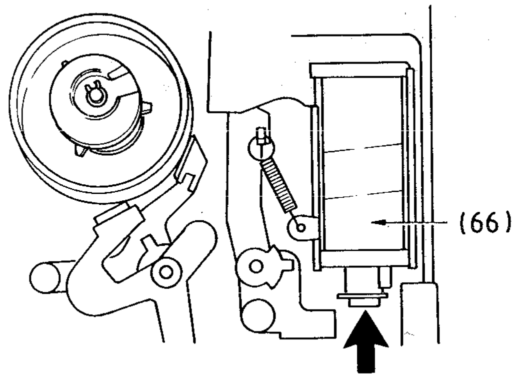


Fig. 4

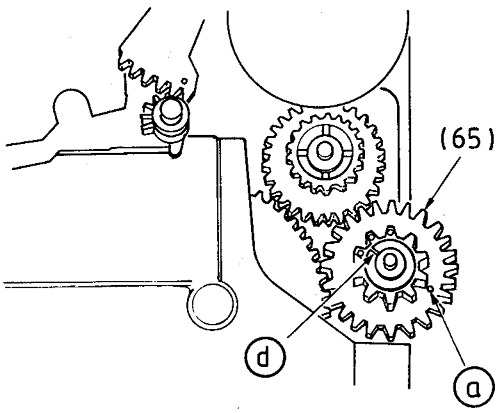


Fig. 5

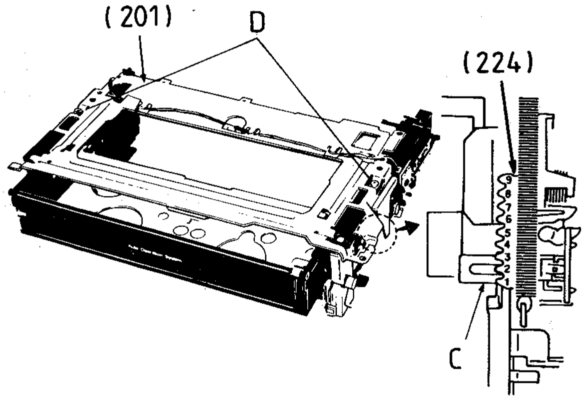


Fig. 6

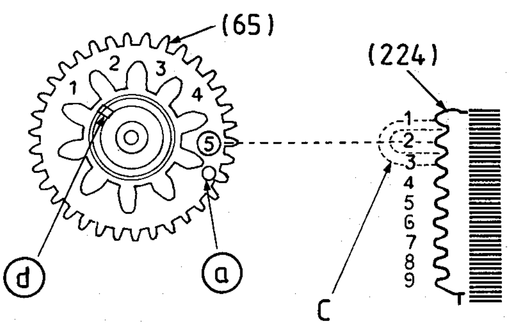


Fig. 7

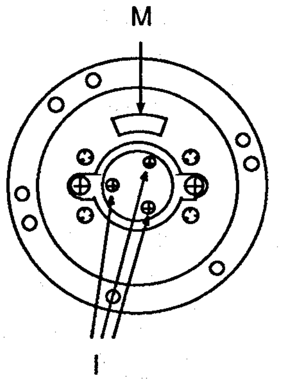


Fig. 8

5. Arbeiten am Bandtrommelbaustein

5.1 Austausch der Kopfscheibe (7)

Servicemittel: Kopfscheibenabzieher

Achtung:
- Die Kopfscheibe sitzt sehr fest auf der Antriebsachse. Arbeiten Sie deshalb mit äußerster Sorgfalt und berühren Sie die Videoköpfe nicht!
- Wenn sich nach dem Einbau die weißen Flächen "M" (Fig. 12) nicht decken, erfolgt die Wiedergabe vorher durchgeführter Aufnahmen in Schwarz / Weiß!
- Die 3 Schrauben "I" nicht lösen (Fig. 8)!

Ausbau:
- Schrauben "F", "H" herausdrehen und Erdungsfeder (5) entfernen (Fig. 9 / Fig. 10).
- Kopfscheibenanschlüsse "K" entlöten, Außenring der Kopfscheibe (7) leicht anwärmen (z.B. Fön) und Kopfscheibe (7) vorsichtig abziehen (Fig. 10).
  Gegebenenfalls Kopfscheiben-Abziehvorrichtung verwenden (Fig.11). Hierzu die Abziehvorrichtung in den Gewindelöchern "L" der Kopfscheibe befestigen und den Handgriff im Uhrzeigersinn drehen bis die Kopfscheibe von der Achse abgezogen ist.

Einbau:
- Kopfscheibe (7) so auf die Antriebsachse stecken, daß sich die weißen Flächen "M" decken (Fig. 12).
- Schrauben "H" eindrehen und Erdungsfeder (5) montieren.
- Kopfscheibenanschlüsse "K" anlöten.

5. Working on the Tape Drum Module

5.1 Replacing the Head Wheel (7)

Service Aid: Head Wheel Extractor

Attention:
- The Head Wheel is fitted very tightly onto the drive shaft. Therefore, when carrying out service work be very careful and especially ensure that the video heads are not touched!
- If, after reassembly, the white areas "M" (Fig. 12) do not coincide, previous recordings on the tape will be reproduced on playback in black and white!
- Do not loosen the 3 screws "I" (Fig. 8)

Removing:
- Remove the screws "F" and "H" and then the earthing spring (5) (Fig. 9 / Fig. 10).
- Unsolder the head wheel connections "K". Warm up the outer ring of the head wheel (e.g. Hairdryer) and pull the head wheel (7) off carefully (Fig. 10).
- If necessary use the head wheel extractor (Fig.11). For this locate the extractor into the holes "L" drilled in the head wheel and rotate the handle in the clockwise direction until the head wheel is pulled off the shaft.

Refitting:
- Fit the head wheel (7) onto the shaft so that the white areas "M" coincide (Fig.12).
- Refit the screws "H" and the earthing spring (5) with screw "F".
- Resolder the head wheel connections "K".

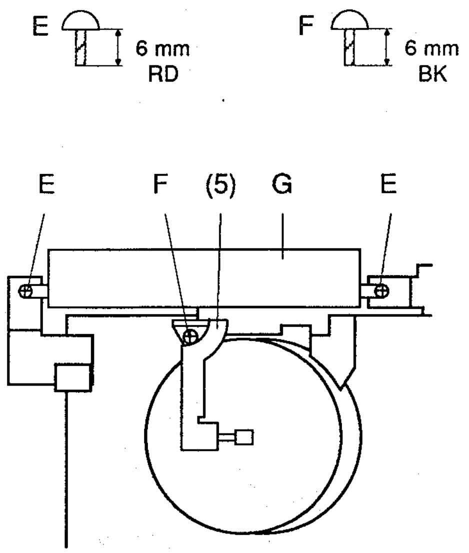


Fig. 9

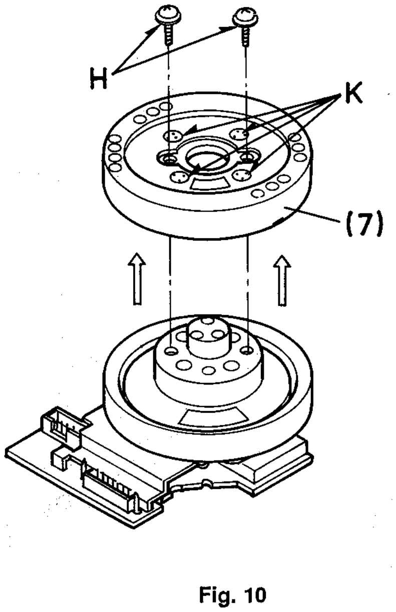


Fig. 10

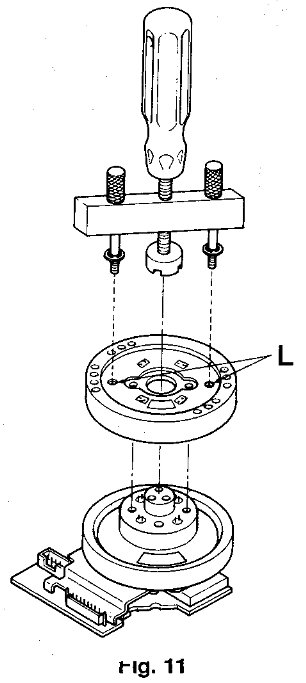


Fig. 11

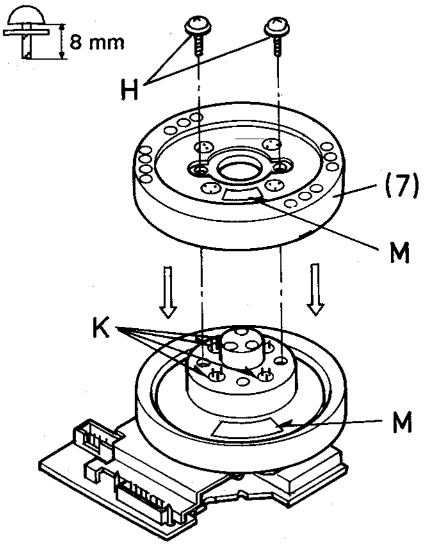


Fig. 12

5.2 Reinigen der Kopfscheibe

- Kopfscheibe festhalten und Videoköpfe mit einem spiritusgetränkten Reinigungsstäbchen in Bandlaufrichtung vorsichtig abreiben (Fig.13).

5.3 Austausch des Bandtrommelbausteins

Ausbau des Bandtrommelbausteins (6)
- 3 Schrauben "E" und "F" herausdrehen (Fig. 9).
- Kopfverstärker "G" und Erdungsfeder (5) entfernen.
- Steckverbindungen lösen.
- 3 Schrauben "N" entfernen (Fig. 14) und Bandtrommelbaustein (6) vorsichtig aus dem Laufwerk ziehen.

Einbau des Bandtrommelbausteins (6)
- Bandtrommelbaustein (6) ins Laufwerk stecken und 3 Schrauben "N" eindrehen (Fig. 14).
- Erdungsfeder (5) mit Schraube "F" befestigen (Fig. 9).
- Kopfverstärker "G" und Steckverbindungen kontaktieren.
- 2 Schrauben "E" eindrehen
- Bandlauf- / Kompatibilitätseinstellung prüfen (Kap. 6.8)

5.4 Austausch der Kopfscheiben-Motorsteuerplatte

- Bandtrommelbaustein gemäß Kap. 5.3 ausbauen.
- Lötstelle "O" öffnen und Abschirmung entfernen (Fig. 15).
- 18 Lötstellen "P", einschließlich der 10 in der Abbildung Fig. 15 nicht sichtbaren, öffnen.
- 2 Schrauben "Q" herausdrehen und Kopfscheiben-Motorsteuerplatte entfernen.

Der Einbau erfolgt in umgekehrter Reihenfolge.

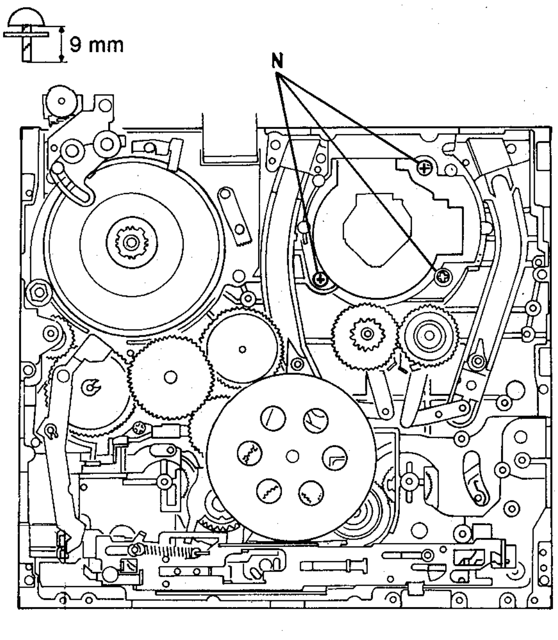


Fig. 14

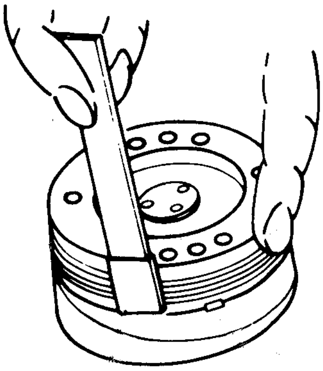


Fig. 13

5.2 Cleaning the Head Wheel

- Hold the head wheel stationary and clean the video heads with a cleaning stick soaked with spirit by wiping carefully in the direction of the tape transport (Fig.13).

5.3 Replacing the Tape Drum Module

Removing the Tape Drum Module (6)
- Remove the 3 screws "E" and "F" (Fig. 9).
- Remove the head amplifier "G" and the earthing spring (5).
- Loosen the plug connectors.
- Remove the 3 screws "N" (Fig. 14) and pull the Tape Drum Module (6) carefully out of the mechanics.

Refitting the Tape Drum Module (6)
- Place the Tape Drum Module (6) into the mechanics and tighten the 3 screws "N" (Fig. 14).
- Refit the earthing spring (5) with the screw "F" (Fig. 9).
- Reconnect the Head Amplifier "G" and the plug connectors.
- Refit the 2 screws "E".
- Check the Tape Transport/Compatibility Adjustment (para 6.8)

5.4 Replacing the Head Wheel-Motor Drive Panel

- Remove the Tape Drum Module as described in para 5.3.
- Unsolder the solder pads "O" and remove the screen (Fig. 15).
- Open the 18 solder connections "P" including the 10 not visible in the illustration (Fig. 15).
- Undo the 2 screws "Q" and remove the Head Wheel-Motor Drive Panel.

For reassembly, reverse the sequence.

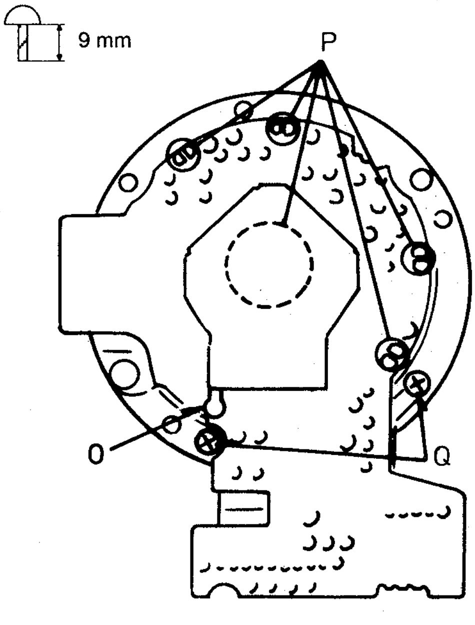
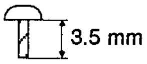


Fig. 15

5.5 Austausch des Kopfscheiben-Motorsteuer-IC´s

- Kopfscheiben-Motorsteuerplatte gemäß Kapitel 5.4 ausbauen.
- Schraube "R" (Fig. 16) und Kühlblech entfernen.
- IC auslöten.

Der Einbau erfolgt in umgekehrter Reihenfolge.



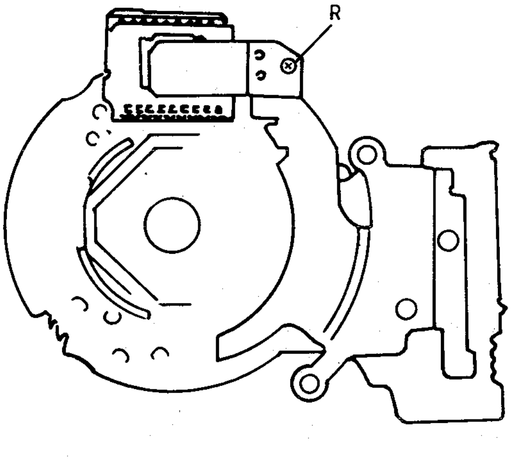


Fig. 16

6. Mechanische Einstellungen

6.1 Einstellen der Riemenspannung des Capstanmotors

Meßmittel: Kontaktor (0,1N - 1N)

- Schraube (A) lösen (Fig. 17).
- Kontaktor am Punkt (B) ansetzen und Spannrollenhebel (108) in Pfeilrichtung (B) drücken.
- Zeigt die Skala des Kontaktors 0,4 N ± 0,05 N (Einstellwert) an, Schraube (A) anziehen.

6.2 Einstellen der Riemenspannung des Umspulmotors

Meßmittel: Kontaktor (0,5N - 5N)

- Schraube (C) lösen (Fig. 18).
- Kontaktor am Punkt (D) ansetzen und Spannrollenhebel (93) in Pfeilrichtung (D) drücken.
- Zeigt die Skala des Kontaktors 2,25 N ± 0,25 N (Einstellwert) an, Schraube (C) anziehen.

5.5 Replacing the Head Wheel-Motor Drive IC

- Remove the Head Wheel-Motor Drive Panel as described in para 5.4.
- Release the screw "R" (Fig. 16) and the heat sink.
- Unsolder the IC.

For reassembly, reverse the sequence.

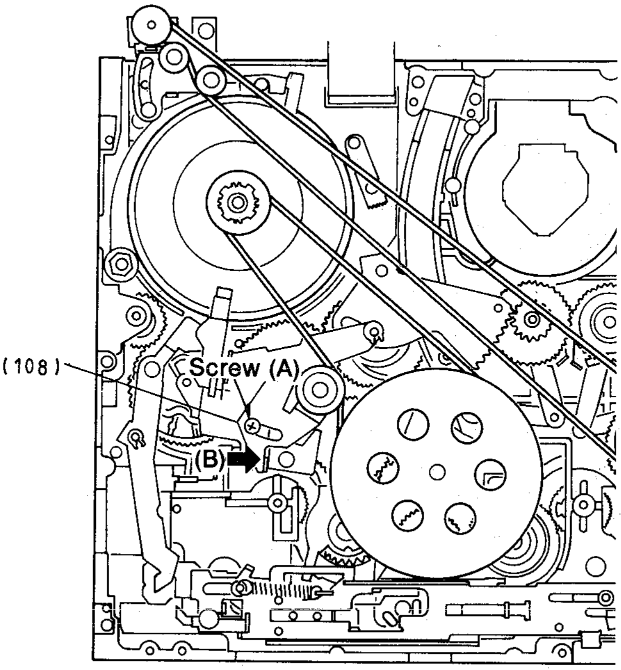


Fig. 17

6. Mechanical Adjustments

6.1 Adjusting the Belt Tension of the Capstan Motor

Service Aid: Tension gauge (0.1N - 1N)

- Loosen the screw (A), (Fig. 17).
- Fit the Tension Gauge to point (B) and press the tension roller lever (108) in the direction of the arrow (B).
- When the Tension Gauge indicates 0.4 N ± 0.05 N (Specified Value), tighten the screw (A).

6.2Adjusting the Belt Tension of the Capstan Motor

Service Aid: Tension gauge (0,5N - 5N)

- Loosen the screw (C), (Fig. 18)
- Fit the Tension Gauge to point (D) and press the tension roller lever (93) in the direction of the arrow (D).
- When the Tension Gauge indicates 2.25 N ± 0.25 N (Specified Value), tighten the screw (C).

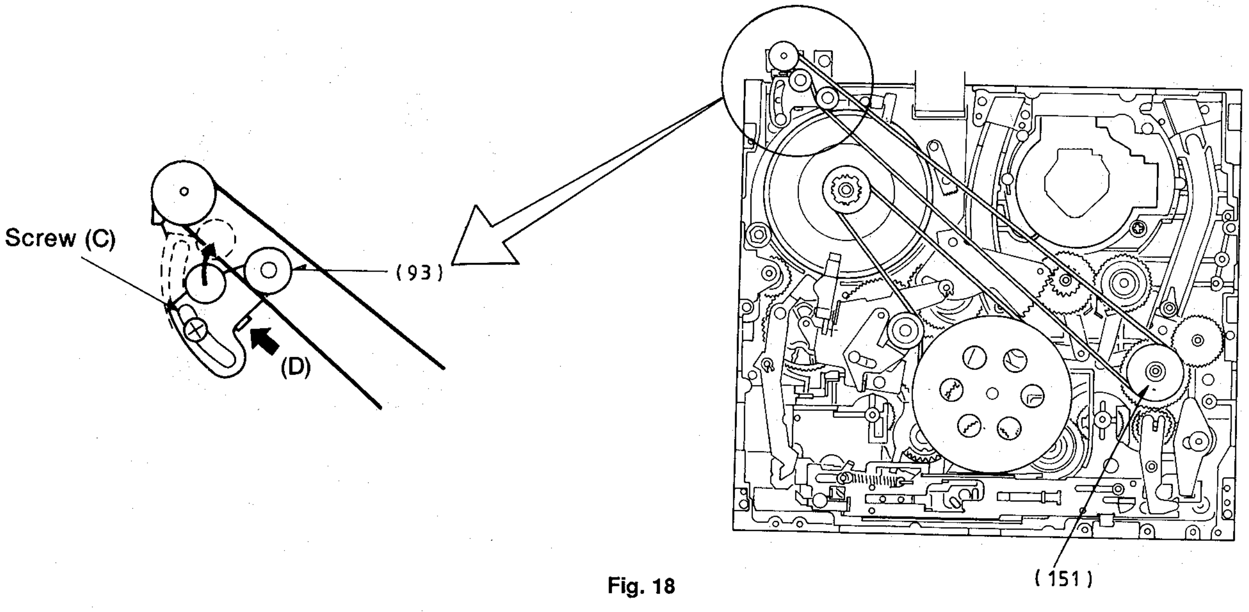


Fig. 18

6.3 Lageeinstellung des Bandzugfühlers

Meßmittel: Referenzplatte, Sechskantstiftschlüssel 2mm

- Gerät vom Netz trennen.
- Cassettenschacht ausbauen (Kap. 3).
- Umstellhebel (122) drücken und Capstanrotor (133) im Uhrzeigersinn drehen bis der Einfädelvorgang abgeschlossen ist (Fig. 19). Dabei den Umschalthebel (122) wiederholt ausrasten.
- Referenzplatte auflegen.
- Exzenter "S" der Bremsbandbefestigung mit dem Sechskantstiftschlüssel so einstellen, daß der Bandzugbolzen "T" gerade die Referenzplatte berührt (Fig. 20).
- Referenzplatte entfernen und Capstanrotor (133) solange entgegen dem Uhrzeigersinn drehen, bis ausgefädelt ist. Dabei den Umschalthebel (122) wiederholt ausrasten.
- Cassettenschacht einbauen (Kap. 4).

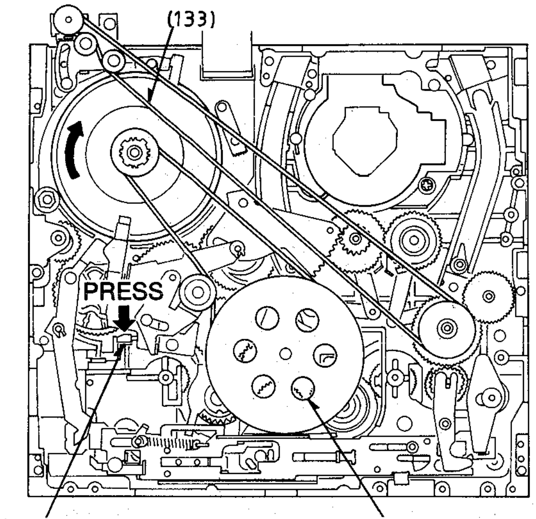


Fig. 19

6.4 Messen und Einstellen des Bandzuges

Meßmittel: Bandzugmesser, A/W-Cassette E 120
- A / W-Cassette E 120 vom Bandanfang an abspielen
- Nach ca. 20 Sekunden den Bandzugmesser "BZ" nach Fig.21 in den Bandlauf einfügen.
- Weicht der abgelesene Bandzug vom Sollwert 0,2 N ... 0,25 N ab, den Bandzug durch Umhängen der Feder (12) auf den Sollwert einstellen (Fig. 22).

Hinweis: Während der Messung müssen die Fühler des Bandzugmessers guten Kontakt zum Band haben. Messung mehrmals wiederholen.

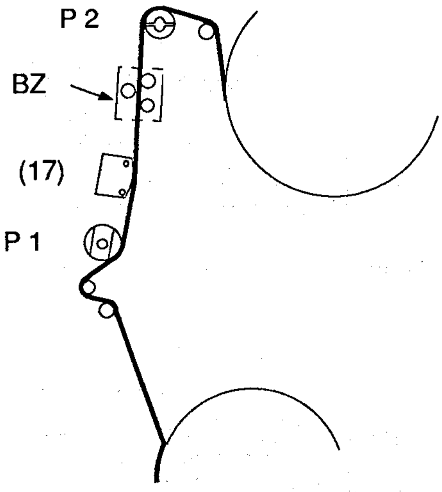


Fig. 21

6.3 Adjustment of the Tape Tension Sensor position

Service Aid: Tension post adjustment plate, Hexagon Wrench (Allen Key) 2mm
- Disconnect the recorder from the mains.
- Remove the cassette compartment (para 3)
- Press the change-over lever (122) and rotate the capstan rotor (133) in the clockwise direction until the loading-in process is completed (Fig. 19). In doing so, disengage the change-over lever (122) repeatedly.
- Fit the Tension Post Adjustment Plate.
- Adjust the cam "S" on the brake band securing point with the hexagon wrench so that the tape tension bolt "T" just touches the Tension Post Adjustment Plate (Fig. 20).
- Remove the Tension Post Adjustment Plate and rotate the capstan rotor (133) in the anti-clockwise direction until the mechanics unloads. In doing so, disengage the change-over lever (122) repeatedly.
- Refit the cassette compartment (para 4).

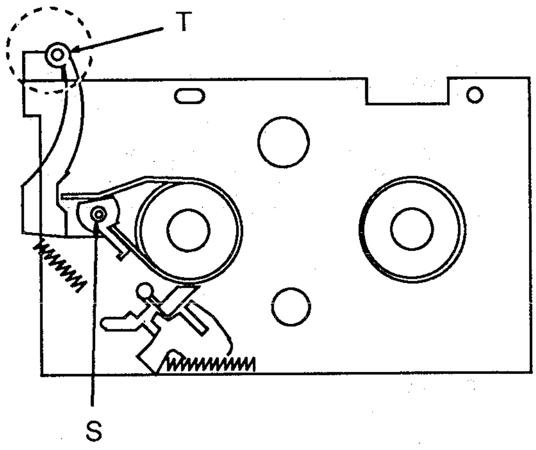


Fig. 20

6.4 Measuring and Adjusting the Tape Tension

Service Aids:
Tape tension meter, Record / Playback cassette E120
- Playback the R/P Cassette E120 from the beginning.
- After about 20 seconds fit the Tape Tension Meter "BZ" as shown in Fig. 21.
- If the measured value is different from the specified value of 0.2N ... 0.25N, relocate the spring (12) to obtain the specified value (Fig. 22).

Note: When making measurements, ensure that the probes of the meter are in good contact with the tape. Repeat this measurement several times.

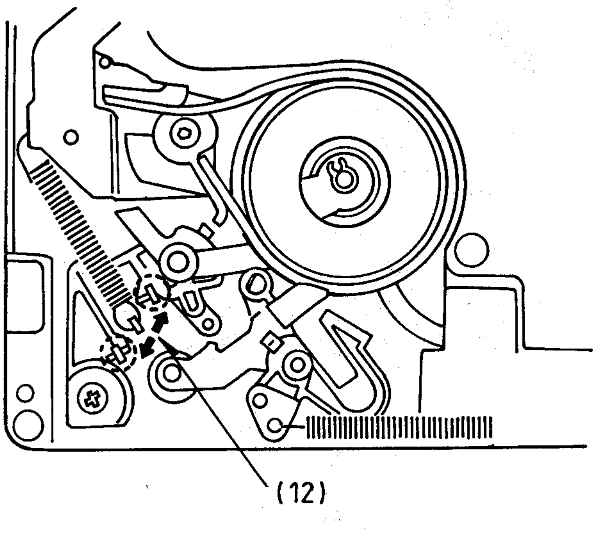


Fig. 22

6.5 Einstellen des Capstanrotors (133)

Meßmittel: Höhenmeßuhr, Höhenlehre
- Einstellschraube (41), Fig. 23, soweit herausdrehen, bis sich Capstanstator (135) und -rotor (133) gerade berühren.
- Höhenlehre "U" auf den Capstanrotor (133) legen und Höhenmeßuhr nach Abbildung Fig. 24 auf dem geschliffenen Laufwerkrand positionieren. Skala der Höhenmeßuhr auf Null stellen.
- Mit der Einstellschraube (41) Abstand zwischen Capstanrotor (133) und -stator (135) auf 0,5 mm...0,55 mm einstellen (Fig. 25).

6.5 Adjusting the Capstan Rotor (133)

Service Aids: Dial Height Gauge, Height Gauge
- Loosen the adjustment screw (41), Fig. 23, until the capstan stator (135) just touches the rotor (133).
- Place the Height Gauge "U" onto the capstan rotor (133) and the Dial Height Gauge as shown in Fig. 24 onto the smooth area on the edge of the mechanics. Set the pointer of the Dial Height Gauge to zero.
- With the adjustment screw (41) adjust the distance between the capstan rotor (133) and the stator (135) to 0.5mm...0.55mm (Fig. 25).

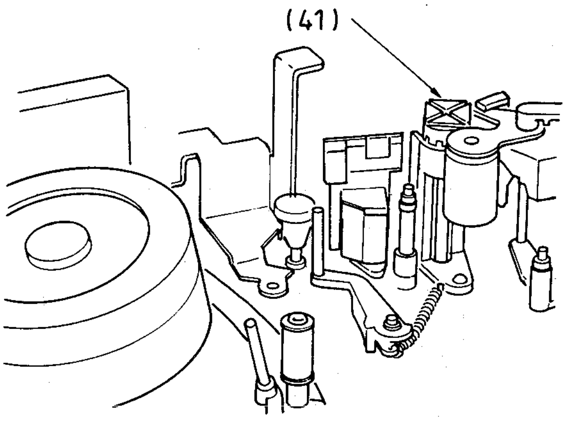


Fig. 23

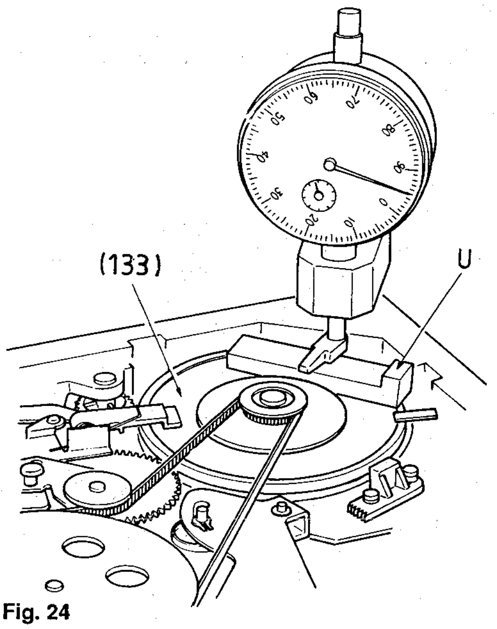


Fig. 24

6.6 Höheneinstellung der Wickelteller

Meßmittel: Einstellplatte, Höhenmeßuhr
- Cassettenschacht ausbauen (Kap. 3).
- Einstellplatte auf die Wickelteller legen.
- Höhenmeßuhr so auf die Einstellplatte legen, daß deren Meßfuß im ausgearbeiteten Teil der Einstellplatte aufsitzt (Fig. 26).
- Skala der Höhenmeßuhr auf Null stellen
- Höhe der Wickelteller (14), (71) messen (Fig. 27).
- Wenn der gemessene Wert mehr als ± 0,2mm vom eingestellten Nullwert der Skala abweicht, Wickeltellerhöhe durch Austauschen der Unterlegscheiben einstellen. Folgende Unterlegscheiben sind lieferbar:

6.6 Height Adjustment of the Spool Carriers

Service Aid: Post Adjustment Plate, Dial Height Gauge
- Remove the cassette compartment (para 3)
- Place the Post Adjustment Plate onto the spool carrier.
- Place the Dial Height Gauge onto the Post Adjustment Plate so that the measuring probe of the Dial Height Gauge locates into the cut-out provided on the Post Adjustment Plate (Fig. 26).
- Set the pointer of the Dial Hight Gauge to zero.
- Measure the height of the spool carrier (14), (71)- (Fig. 27).
- If the measured value differs from the zero Value of the pointer by more than ± 0.2mm, readjust the spool carrier height by replacing the shim washer. The following shim washers are available:

Unterlegscheibe / Washer / Rondella	Sachnummer / Part Number / No. ordine
0,2 mm	75 986 - 208.21
0,3 mm	75 986 - 208.22
0,5 mm	75 986 - 208.23

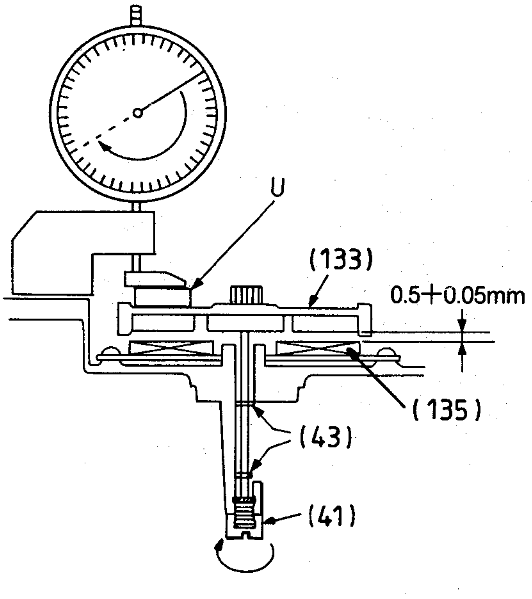


Fig. 25

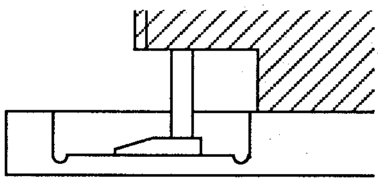


Fig. 26

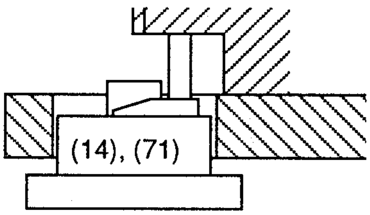


Fig. 27

6.7 Statische Höheneinstellung der Bandbolzen P2, P3 und P5

Meßmittel: Einstellplatte, Höhenmeßuhr, Einstellschraubendreher

Vorbereitung:
- Cassettenschacht ausbauen (Kap. 3)
- Einstellplatte nach Abbildungen Fig. 28 / 31 auf die Wickelteller legen.

6.7.1 Bandführungsbolzen P2, P3

- Höhe der Bandführungsbolzen P2 / P3 so einstellen, daß der untere Führungsbund unter der Oberkante der Einstellplatte liegt (Fig. 29).
- Höhenmeßuhr nach Abbildung Fig. 29 plazieren und Anzeige auf Null stellen. Anschließend Bandführungsbolzen soweit hochdrehen, bis der untere Führungsbund gerade den Meßfühler der Höhenmeßuhr berührt (Fig. 30).
- Schraube "V" nicht lösen! Sie dient zur Neigungseinstellung der Führungsbolzen P2, P3.
- Statische Höheneinstellung kontrollieren (Kap. 6.7.3).

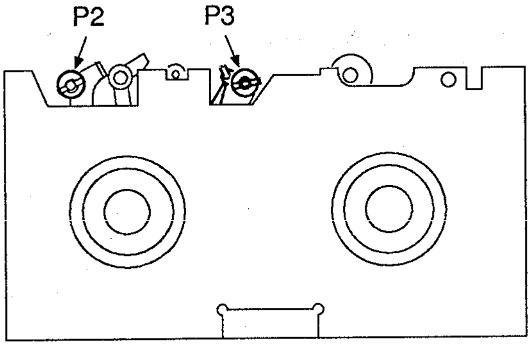


Fig. 28

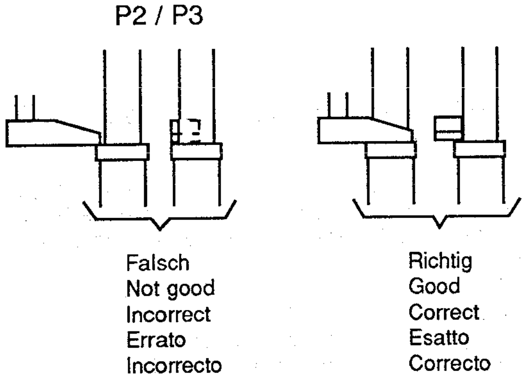


Fig. 30

6.7.2 Bandauszugsbolzen P5

Hinweis: Einstellmutter (52) des Bandauszugsbolzens P5 nur zu Justagezwecken verdrehen!
- Capstanrotor soweit entgegen dem Uhrzeigersinn drehen, bis die in Abbildung Fig. 31 gezeigte Laufwerkstellung erreicht ist.
- Höhenmeßuhr nach Abbildung Fig. 32 auf die Einstellplatte stellen und Skala auf "Null" eichen.
- Höhenmeßuhr nach Abbildung Fig. 33 am unteren Führungsbund des Bandauszugsbolzens P5 auflegen und mit der Einstellmutter (52) die Anzeige der Höhenmeßuhr auf 0,03 mm ± 0,01 mm einstellen.
- Statische Höheneinstellung kontrollieren (Kap. 6.7.3).

6.7 Static Height Adjustment of Tape Bolts P2, P3 and P5

Service Aids: Post Adjustment Plate, Dial Height Gauge, Post Adjustment screw driver

Preparations:
- Remove the cassette compartment (para 3)
- Place the Post Adjustment Plate onto the spool carrier as shown in Fig. 28 / 31.

6.7.1 Tape Guide Bolts P2, P3

- Adjust the height of the Tape Guide Bolts P2, P3 so that the lower guide collar lies below the upper edge of the Post Adjustment Plate (Fig. 29).
- Place the Dial Height Gauge as shown in Fig. 29 and set the pointer to zero. Afterwards adjust to raise the height of the Tape Guide Bolts so that the lower guide collar just touches the measuring probe of the Dial Height Gauge (Fig. 30).
- Do not loosen screw "V"! This screw is only for adjusting the tilt of the Guide Bolts P2, P3.
- Check the Static Height Adjustment (para 6.7.3).

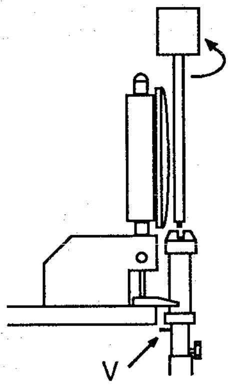


Fig. 29

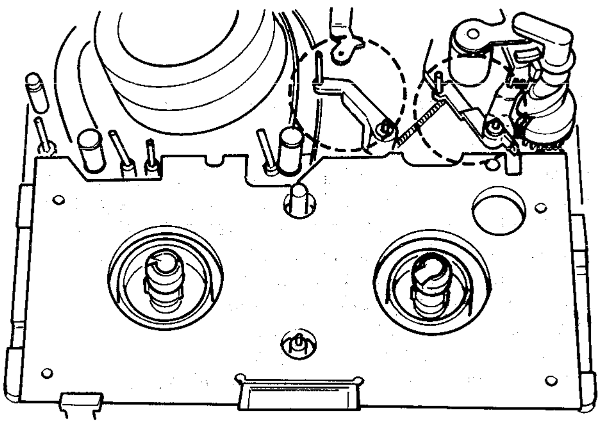


Fig. 31

6.7.2 Tape Pull-Out Bolt P5

Note: The Adjustment Nut (52) on the Tape Pull-out Bolt P5 must be turned for adjustment purposes only!
- Rotate the capstan rotor in the anti-clockwise direction until the mechanics reaches the position shown in Fig. 31.
- Place the Dial Height Gauge onto the Post Adjustment Plate as shown in Fig. 32 and adjust the pointer to zero.
- Place the Dial Height Gauge as shown in Fig. 33 onto the lower guide collar of the Tape Pull-out Bolt P5 and adjust the nut (52) until the pointer of the Dial Height Gauge indicates 0.03 mm ± 0.01 mm.
- Check the Static Height Adjustment (para 6.7.3).

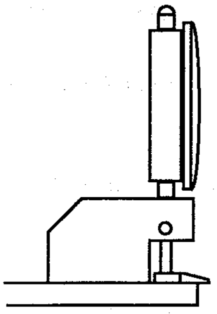


Fig. 32

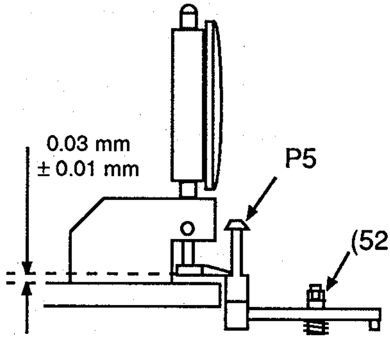


Fig. 33

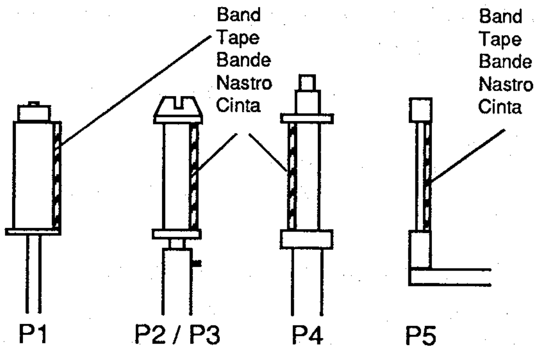


Fig. 34

6.7.3 Kontrolle der statischen Höheneinstellung

- Cassettenschacht einbauen (Kap. 4).
- A / W - Cassette wiedergeben.
- Prüfen, ob das Band an den Bolzen P1, P2, P3, P4 und P5 ohne zu bördeln läuft (Fig. 34...Fig. 36).
- Gegebenenfalls Höhenjustage Kap. 6.7.1 und 6.7.2 wiederholen.
- Dynamische Einstellung der Bandführungsbolzen P2, P3 prüfen (Kap. 6.8.1)

6.7.3 Checking the Static Height Adjustment

- Refit the cassette compartment (para 4).
- Playback a record / playback cassette.
- Check that the tape runs past the Bolts P1, P2, P3, P4 and P5 without crinkling (Fig. 34 ... Fig. 36).
- If necessary, repeat the height adjustment as described in paras 6.7.1 and 6.7.2.
- Check the Dynamic Adjustment of the Tape Guide Bolts P2, P3 (para 6.8.1).

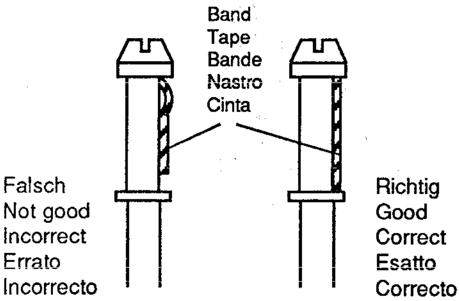


Fig. 35

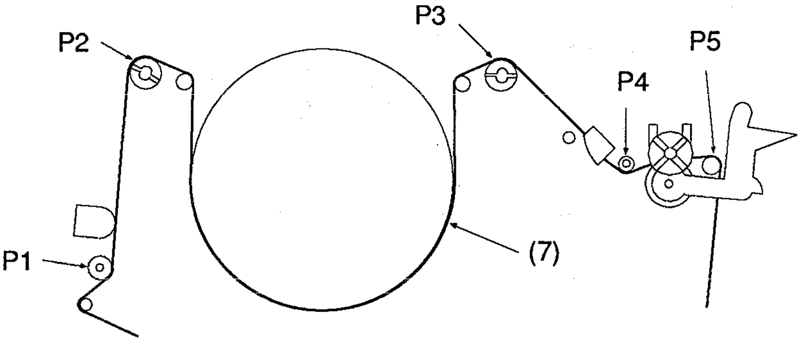


Fig. 36

6.8 Bandlaufeinstellung / Kompatibilitätseinstellung

Diese Einstellungen sind grundsätzlich nach Tausch des Audio-/Synchronkopfes (A/C), der Andruckrolle oder nach Justage der Bolzen P2, P3, P5 durchzuführen bzw. zu überprüfen. Dabei muß folgende Reihenfolge eingehalten werden:

6.8.1 Dyn. Einstellung der Bolzen P2, P3
6.8.2 Einstellen der Neigung des A/C -Kopfes
6.8.3 Höheneinstellung des A/C-Kopfes
6.8.4 Azimut-Einstellung des A/C-Kopfes
6.8.5 Einstellen der horizontalen Lage des A/C-Kopfes

6.8.1 Dynamische Einstellung der Bolzen P2, P3

Meßmittel: Testcassette, Oszilloskop

- Oszilloskop nach Abbildung Fig. 37 anschließen:
  - Tastkopf 1 an TP 1
  - Tastkopf 2 an TP 2
- Testcassette wiedergeben (Tracking in Mittelstellung)
- Falls sich Hüllkurven wie die Beispiele "A" und "B" in Abbildung Fig. 38 zeigen, Hüllkurve mit dem Einlauf-Bandführungsbolzen P2 nach Abbildung Fig. 38 - "E" einstellen.
- Falls sich Hüllkurven wie die Beispiele "C" oder "D" in Abbildung Fig. 38 zeigen, Hüllkurve mit Auslauf-Bandführungsbolzen P3 nach Abbildung Fig. 38 - "E" einstellen.
- Trackingeinstellung nach "+" und "-" variieren. Dabei sollen die Hüllkurvenränder parallel zusammenlaufen (Fig. 39).
- Tracking auf maximale Hüllkurvenamplitude einstellen. Diese muß folgende Grenzwerte einhalten (Fig. 40):

  V1 / V ≥ 0,7 ; V2 / V ≥ 0,8
- Gegebenenfalls Einstellung wiederholen.

6.8 Tape Transport Adjustment / Compatibility Adjustment

These adjustments must be carried out or checked in every case after every replacement of the A/C head, the Pressure Roller or after adjusting the Bolts P2, P3, P5. The following sequence must be adhered to:

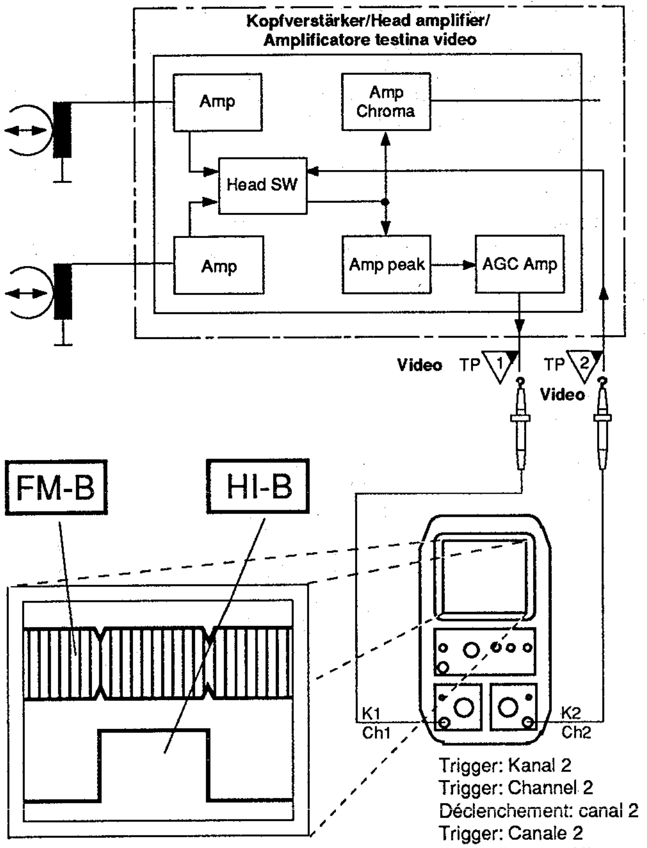
6.8.1 Dynamic adjustment of the Bolts P2, P3
6.8.2 Tilt adjustment of the A/C Head
6.8.3 Height adjustment of the A/C Head
6.8.4 Azimuth adjustment of the A/C Head
6.8.5 Horizontal position adjustment of the A/C Head

6.8.1 Dynamic adjustment of the Bolts P2, P3

Service Aids: Test Cassette, Oscilloscope

- Connect the oscilloscope as shown in Fig. 37:
  - Test Probe 1 to TP 1
  - Test Probe 2 to TP 2
- Playback the test cassette (tracking to mid setting).
- If the FM envelopes are displayed as shown in examples "A" and "B" in Fig. 38 adjust with the Run-in Tape Guide Bolt P2 so that the FM envelopes are as shown in Fig. 38 - "E".
- If the FM envelopes are displayed as shown in example "C" or "D" in Fig. 38, adjust with the Run-out Tape Guide Bolt P3 so that the FM envelopes are as shown in Fig. 38 - "E".
- Vary the Tracking in the "+" and "-" directions. When doing so the FM envelope should show parallel converging lines (Fig. 39).
- Adjust the tracking to obtain maximum FM envelope amplitude. This must produce the following basic values (Fig. 40):

  V1 / V ≥ 0.7 ; V2 / V ≥ 0.8
- If not obtained repeat these adjustments.


Kopfverstärker/Head amplifier/
Amplificatore testina video
Amp
Amp Chroma
Head SW
Amp
Amp peak
AGC Amp
Video
TP 1
TP 2
Video
FM-B
HI-B
K1
Ch1
K2
Ch2

Trigger: Kanal 2
Trigger: Channel 2
Déclenchement: canal 2
Trigger: Canale 2
Sincronizar con HI

Fig. 37

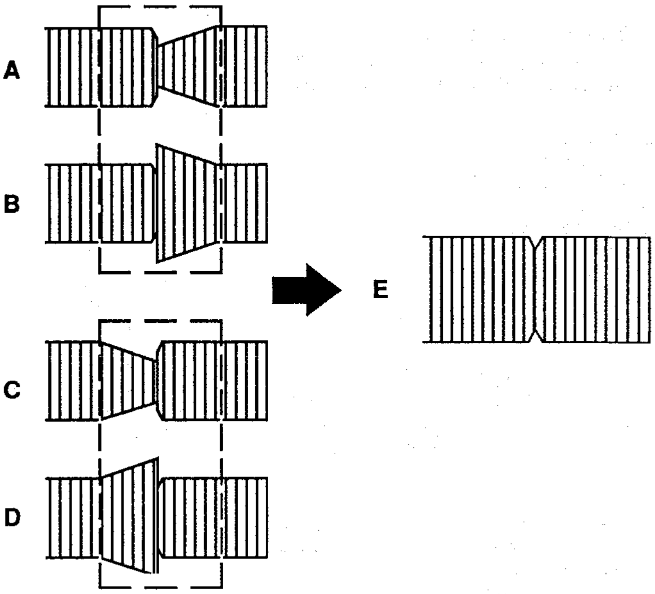
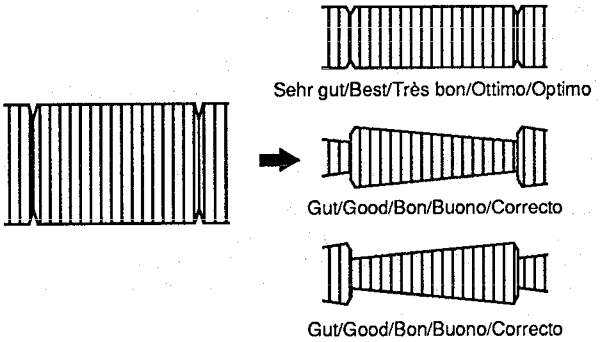


Fig. 38

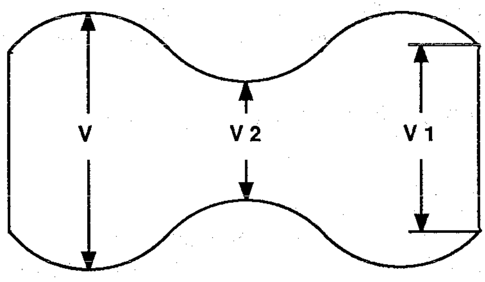


Sehr gut/Best/Très bon/Ottimo/Optimo

Gut/Good/Bon/Buono/Correcto

Gut/Good/Bon/Buono/Correcto

Fig. 39



$V1 / V \geq 0.7$

$V2 / V \geq 0.8$

Fig. 40

6.8.2 Einstellen der Neigung des A/C-Kopfes

- Unbespielte Cassette vom Bandanfang an wiedergeben.
- Neigung des A/C-Kopfes (34) mit Schraube "A1" (Fig. 41 / 42) so einstellen, daß das Band bei manueller Bandzugerhöhung leicht sichtbar, jedoch ohne zu bördeln am unteren Führungsbund des Bandlaufbolzens P4 aufliegt.
- Höheneinstellung des A/C-Kopfes prüfen (Kap. 6.8.3)

6.8.2 Tilt Adjustment of the A/C Head

- Playback an un-used cassette from the beginning.
- Adjust the tilt of the A/C head (34) with the screw "A1" (Fig. 41 / 42) so that the tape, whilst manually increasing the tape tension, just touches the lower collar of the Tape Guide Bolt P4 without crinkling.
- Check the height adjustment of the A/C Head (para 6.8.3)

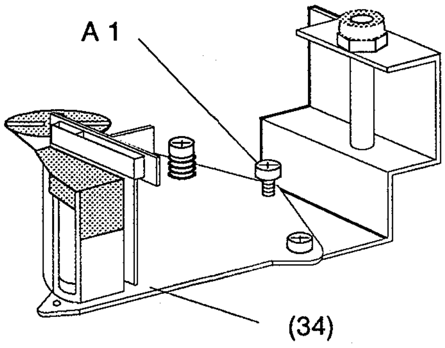
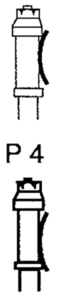
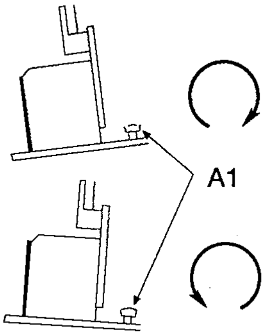


Fig. 41





Drehrichtung für Korrektur
Turn in this direction for correction
Sens de rotation pour la correction
Direzione rotazione p. correzione
Sentido de giro para corrección

Fig. 42

6.8.3 Höheneinstellung des A/C-Kopfes

Meßmittel: Testcassette, Oszilloskop
- Testcassette wiedergeben
- mit Mutter (35) den unteren Rand des Synchronkopfes mit dem unteren Rand des Bandes zur Deckung bringen (Fig. 43).

Kontrolle:
- Tastkopf des Oszilloskops an EURO-AV-Buchse, Kontakt 1
- 6,3 kHz- Signal der Testcassette wiedergeben
- mit Mutter (35) maximale Ausgangsspannung einstellen (Fig. 44).

6.8.3 Height adjustment of the A/C Head

Service Aids: Test Cassette, Oscilloscope
- Playback the Test Cassette.
- Turn the nut (35) so that the bottom edge of the Sync Head coincides with the lower edge of the tape (Fig. 43).

CHECK:
- Connect a test probe from the Oscilloscope to contact 1 of the EURO-AV Socket.
- Playback the 6.3 kHz signal from the Test Cassette.
- Adjust the nut (35) to obtain maximum output voltage (Fig. 44).

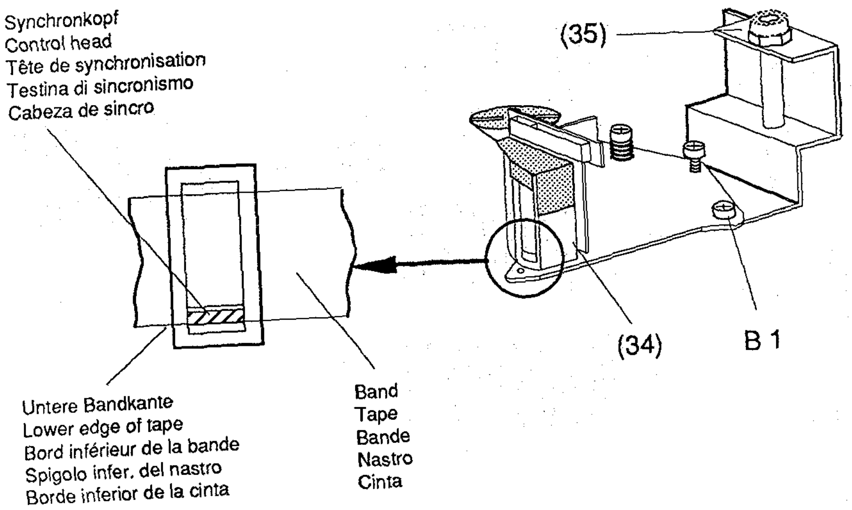

Synchronkopf
Control head
Tête de synchronisation
Testina di sincronismo
Cabeza de sincro
(35)
(34)
B 1
Untere Bandkante
Lower edge of tape
Bord inférieur de la bande
Spigolo infer. del nastro
Borde inferior de la cinta
Band
Tape
Bande
Nastro
Cinta

Fig. 43

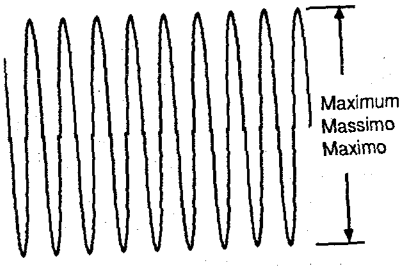


Fig. 44

6.8.4 Azimuteintellung des A/C-Kopfes

Meßmittel: Testcassette, Oszilloskop
- Tastkopf des Oszilloskops an EURO-AV-Buchse, Kontakt 1.
- 6,3 kHz-Audiosignal der Testcassette wiedergeben.
- mit Schraube "B1" maximalen Ausgangspegel einstellen (Fig. 43, Fig. 44).

6.8.5 Einstellen der horizontalen Lage des A/C-Kopfes

Meßmittel: Testcassette, Oszilloskop
- Oszilloskop nach Abbildung Fig. 37 anschließen
- Testcassette wiedergeben (Tracking in Mittelstellung)
- Hüllkurve (FM vom Band) mit Mutter (36) auf maximale Amplitude einstellen (Fig. 45, Fig. 46).

6.8.4 Azimuth adjustment of the A/C Head

Service Aids: Test Cassette, Oscilloscope
- Connect a test probe from the Oscilloscope to contact 1 of the EURO-AV Socket.
- Playback the 6.3 kHz signal from the Test Cassette.
- Adjust the screw "B1" to obtain maximum output voltage (Fig. 43, Fig. 44).

6.8.5 Horizontal position adjustment of the A/C Head

Service Aids: Test Cassette, Oscilloscope
- Connect the Oscilloscope as shown in Fig. 37.
- Playback the Test Cassette (tracking to mid setting).
- Set the envelopes (FM Tape) to maximum amplitude (Fig. 45, Fig. 46) with the nut (36).

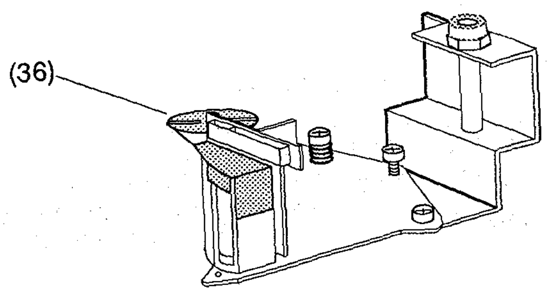


Fig. 45

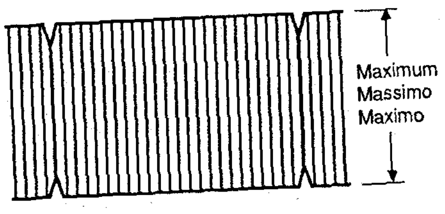


Fig. 46

7. Hinweise zu Reparaturen in der Antriebsmechanik

Dieses Laufwerk ist durch den Funktionswahlschalter (55) sehr eng mit der Ablaufsteuerung verknüpft. Die Beziehung zwischen Funktionswahlschalter und den Kurvenrädern bestimmt alle weiteren mechanischen Funktionsabläufe. Falls Hebel, Zahnräder, Rollen usw. nicht exakt eingebaut sind, können deshalb Laufwerksblockaden, bzw. Schäden im Laufwerk oder in der Elektronik auftreten.
Die Abbildungen Fig. 47 / 48 zeigen das Laufwerk in der Bezugsposition "STOP" und die dabei auftretende Anordnung der Markierungslöcher. Die Bezugsposition "STOP" ist identisch mit der Laufwerkstellung "Umspulbetrieb". Diese entspricht der 2. Raststellung des Kupplungsrades (116), wenn diese Laufwerkstellung durch Drehen des Capstanrotors von Hand angefahren wird.
Der Austausch von Bauteilen in der Antriebsmechanik darf nur in dieser Laufwerkstellung erfolgen.

7. Notes on Repairing the Drive Mechanism

This Drive Mechanism is very closely coupled with the Sequence Control by means of the Mode Select Switch (56). The relationship between the Mode Select Switch and the Cam Gears determines all the sequences of the other mechanical operations. If, therefore, the levers, gears and rollers etc, are not correctly fitted, the drive mechanism may fail to work and damage may occur within the mechanics or electronic circuits.
The illustrations Fig. 47 / 48 show the drive mechanism in the reference position "STOP" and the resulting alignment of the marking holes. The reference position "STOP" is identical to the mechanical position during "WINDING MODE". This corresponds to the second locking position of the clutch disc (116), when this mechanical position is reached by rotating the capstan rotor by hand.
Replacement of components in the drive mechanism must only be carried out with the mechanics set to this position.

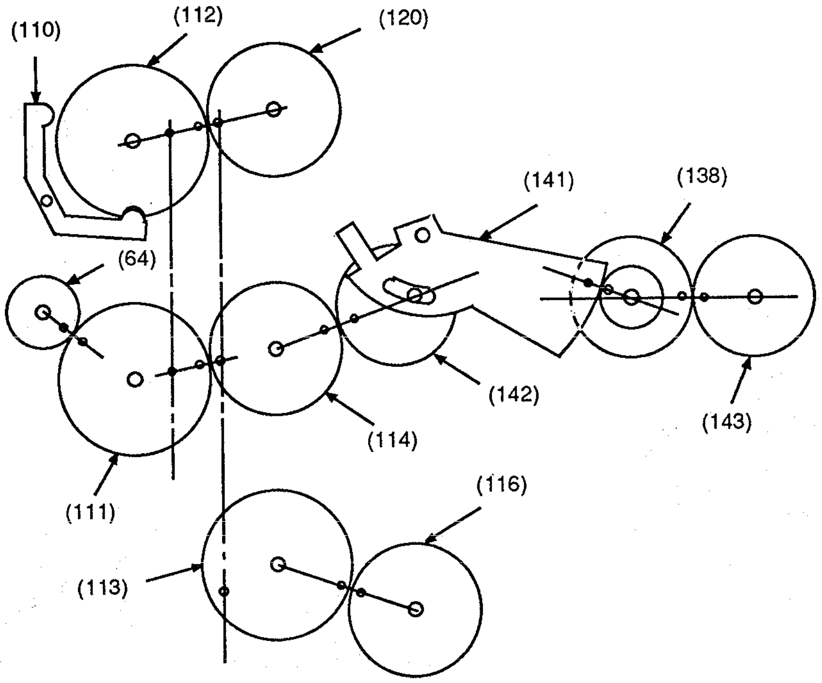


Fig. 47

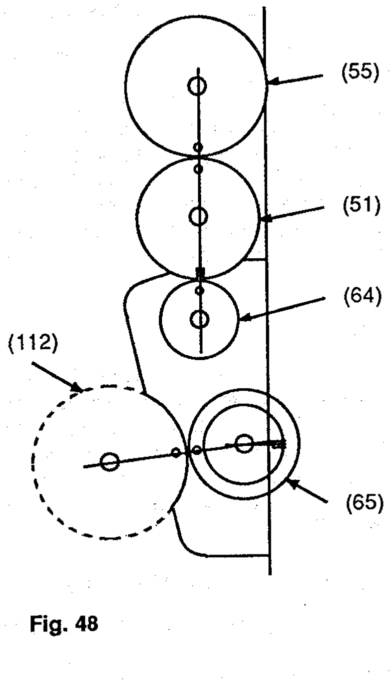


Fig. 48

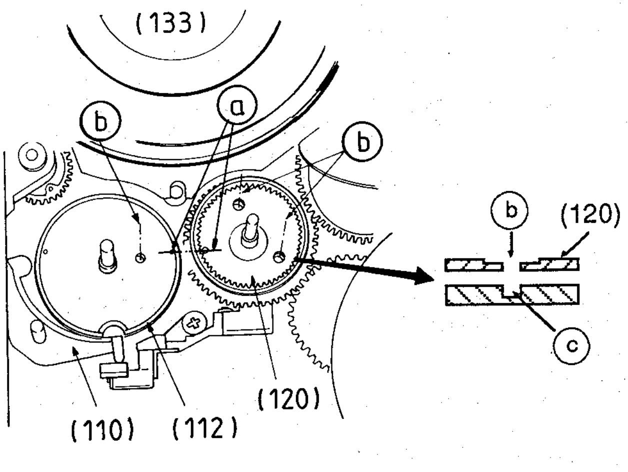


Fig. 49

7.1 Kurvenrad (112), Ringrad (120), Sperrhebel (110)

- Ringrad (120) so einbauen, daß die Markierungslöcher ⓑ im Ringrad mit den Markierungslöchern ⓒ im Laufwerkchassis übereinstimmen (Fig. 49).
- Kurvenrad (112) so einbauen, daß das Markierungsloch ⓑ mit dem Markierungsloch ⓒ im Laufwerk übereinstimmt und das Markierungsloch ⓐ dem Markierungsloch ⓐ des Ringrades (120) gegenübersteht.
- Sperrhebel (110) einsetzen.

7.2 Kurvenrad (111), Untersetzungszahnrad (64)

- Untersetzungszahnrad (64) von der Oberseite des Laufwerks einsetzen (Fig. 50).
- Kurvenrad (111) so auf das Kurvenrad (112) stecken, daß sich die Markierungslöcher ⓐ des Kurvenrades (111) und des Untersetzungszahnrads (64) gegenüberstehen. Gleichzeitig müssen die Markierungslöcher ⓑ der Kurvenräder (111) und (112) genau übereinander liegen (Fig. 49 / 50).

7.1 Sub Cam Gear (112), Ring Gear (120), Locking Lever (110)

- Fit the ring gear (120) so that the marked holes ⓑ in the Ring Gear lines up with the marked holes ⓒ in the mechanical chassis (Fig. 49).
- Fit the Sub Cam Gear (112) so that the marked hole ⓑ lines up with the marked hole ⓒ in the mechanics and that the marked hole ⓐ faces towards the marked hole ⓐ on the Ring Gear (120).
- Fit the Locking Lever (110).

7.2 Cam Gear (111), Reduction Toothed Gear (64)

- Fit the Reduction Toothed Gear (64) from the top of the mechanics (Fig. 50)
- Fit the Cam Gear (111) onto the Sub Cam Gear (112) so that the marked holes ⓐ on the Cam Gear (110) and the Reduction Gear (64) are aligned towards each other. In this position the marked holes ⓑ on the Cam Gears (111) and (112) must lie accuratly over each other (Fig. 49 / 50).

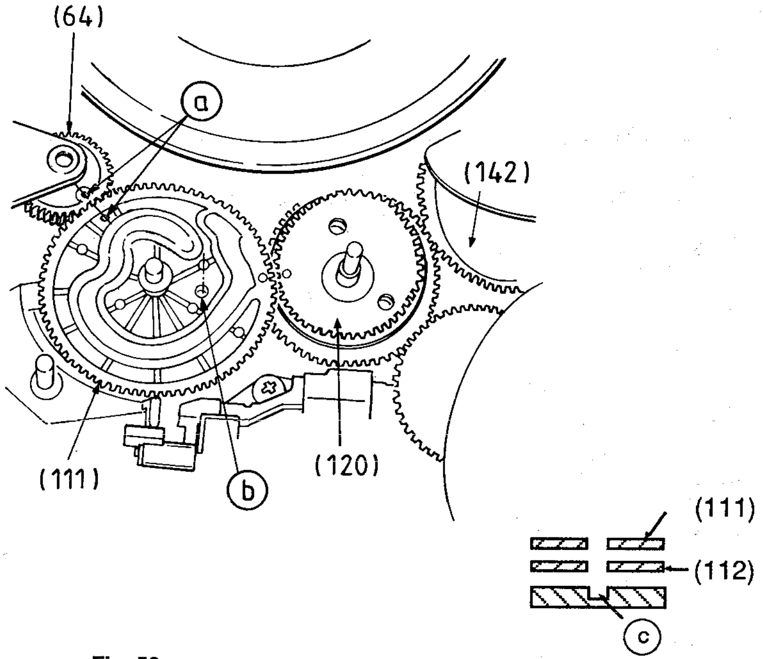


Fig. 50

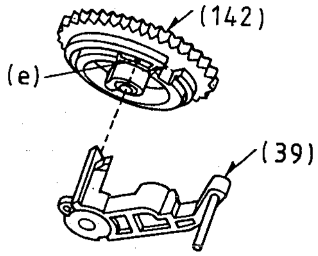


Fig. 51

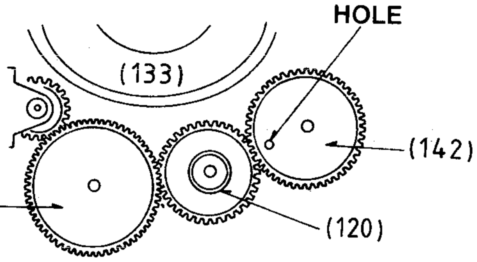


Fig. 51-1

7.3 Ladekurvenrad (142), Zwischenrad (114)

- Ladekurvenrad (142) so einbauen, daß der Hilfsladehebel (39) in die Aussparung "e" eingreift (Fig. 51).
- Zwischenrad (114) auf das Ringrad (120) stecken (Fig. 52). Die Markierungslöcher des Zwischenrades (114) und des Kurvenrades (111), sowie die Markierungslöcher ⓑ des Zwischenrades (114) und des Ladekurvenrades (142) müssen gegenüberstehen. Gleichzeitig müssen das Markierungsloch ⓑ' des Zwischenrades (114), das Markierungsloch ⓑ des Ringrades (120) und das Markierungsloch ⓒ im Laufwerkchassis übereinanderliegen.

7.4 Steuerrad (113)

- Steuerrad (113) so auf das Zwischenrad (114) stecken, daß das Markierungsloch ⓐ des Steuerrades (113) dem Markierungsloch ⓐ des Kupplungsrades (116) gegenübersteht und die Markierungslöcher ⓑ des Steuerrades (113), ⓑ' des Zwischenrades (114), ⓑ des Ringrades (120) und ⓒ des Laufwerks übereinanderliegen (Fig. 53).
- Sicherungsring (100) montieren.

7.5 Hauptsteuerschieber (103), Steuerhebel (109)

- Hauptsteuerschieber (103) einsetzen und mit den Sicherungsringen (100) befestigen (Fig. 54).
- Steuerhebel (109) so einbauen, daß dessen Steuerbolzen " f " in die Steuerkurve des Kurvenrades (111) und der Abbug in die Aussparung des Hauptsteuerschiebers (103) eingreift (Fig. 55).
- Greifring " X " montieren.

7.3 Loading Cam Gear (142), Intermediate Gear (114)

- Fit the Loading Cam Gear (142) so that the Sub Loading Lever (39) engages with the cut out "e" (Fig. 51).
- Fit the Intermediate gear (114) onto the Ring Gear (120), (Fig. 52). The marked holes ⓐ on the Intermediate Gear (114) and the Cam Gear (111) and the marked the holes ⓑ on the Intermediate Gear (114) and the Loading Cam Gear (142) must be aligned towards each other. Simultaneously the marked hole ⓑ' on the Intermediate Gear (114), the marked hole ⓑ on the Ring Gear (120) and the marked hole ⓒ on the mechanical chassis must lie accurately over each other.

7.4 Drive Gear (113)

- Fit the Drive Gear (113) onto the Intermediate Gear (114) so that the marked hole ⓐ on the Drive Gear (113) is aligned towards the marked hole ⓐ on the Clutch Disk (116), and the marked holes ⓑ on the Drive Gear (113), marked hole ⓑ' on the Intermediate Gear (114), marked hole ⓑ on the Ring Gear (120) and the marked hole ⓒ on the mechanics lie accurately over each other (Fig. 53).
- Fit the Securing Ring (100).

7.5 Main Control Lever (103), Control Lever (109)

- Fit the Main Control Lever (103) and secure with the securing ring (100) (Fig. 54)
- Fit the Control Lever (109) so that the Drive Bolt " f " engages with the cam curve of the Cam Gear (111) and the bent part with the gap in the main control lever (103), Fig. 55.
- Fit the Grip Ring "X".

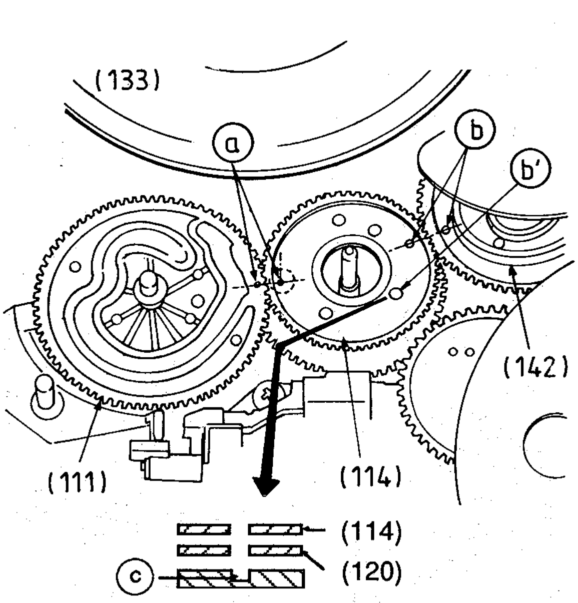


Fig. 52

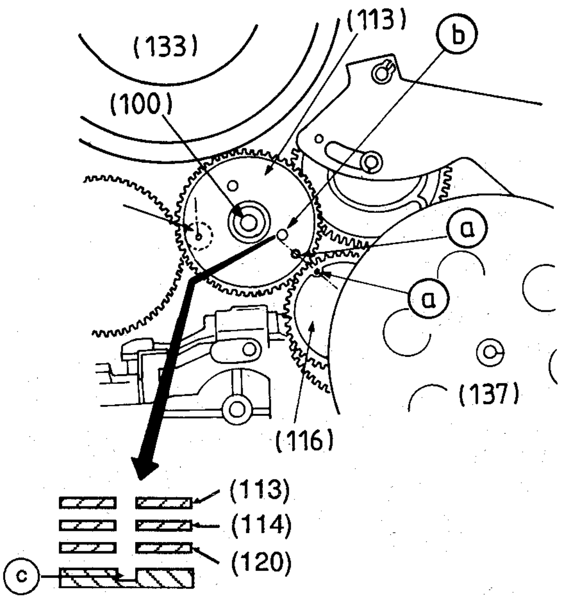


Fig. 53

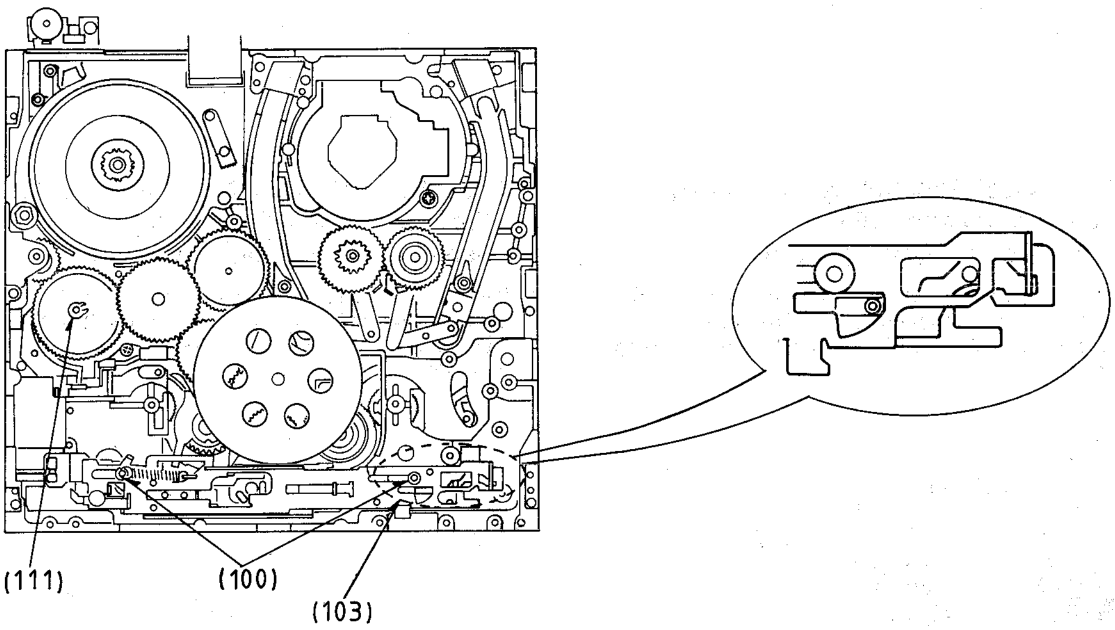


Fig. 54

7.6 Laderäder (138,143), Zahnsegment (141), Bremshebel (105), Spannrollenhebel (108)

- Bandführungsbolzen P2, P3 in Stellung "STOP" bringen.
- Laderäder (138, 143) so einsetzen, daß sich deren Markierungslöcher ⓑ gegenüberstehen (Fig. 56).
- Zahnsegment (141) nach Fig. 56 einbauen. Das Markierungsloch ⓑ des Zahnsegments (141) muß sich gegenüber der Markierungsnase ⓓ des Laderades (138) befinden.
- Bremshebel (105) und Greifring "X" montieren.
- Spannrollenhebel (108) einbauen.
- Spannung des Riemens des Capstanmotors einstellen (Kap. 6.1)
- Schrauben "SC" anziehen.

7.6 Loading Gears (138,143), Toothed Segment (141), Brake Lever (105), Tension Roller Lever (108)

- Set the Tape Guide Bolts P2 and P3 into the "STOP" position.
- Fit the Loading Gears (138, 143) so that their marked holes ⓑ are aligned towards each other (Fig. 56).
- Fit the Toothed Segment (141) as shown in Fig. 56. The marked hole ⓑ on the Toothed Segment (141) must be aligned towards the marked lug ⓓ on the Loading Gear (138).
- Fit the Brake Lever (105) and the Grip Ring "X".
- Fit the Tension Roller Lever (108).
- Adjust the tension of the belt of the capstan motor (para 6.1).
- Tighten the screws "SC".

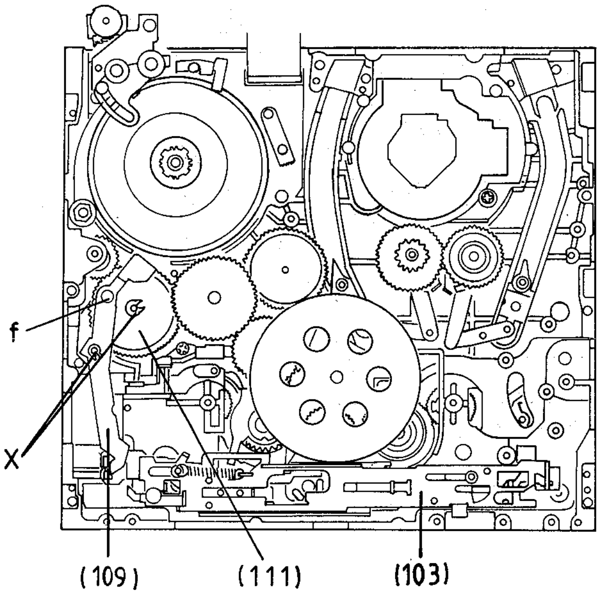

f
X
(109)
(111)
(103)

Fig. 55

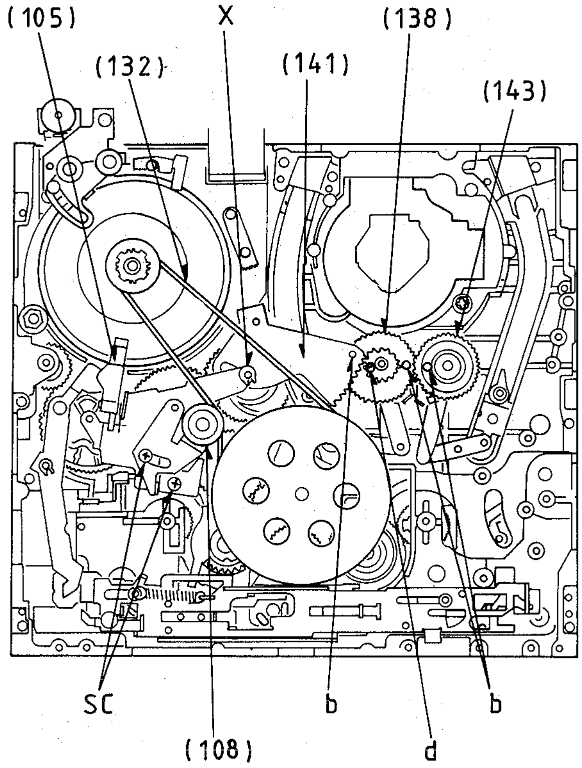

(105)
X
(138)
(132)
(141)
(143)
SC
b
b
(108)
d

Fig. 56

7.7 Umspulhebel (153), Umspulkupplung (151), Zugverminderungshebel (154), Zugverminderungs-Kupplung (152)

- Umspulhebel (153) und Umspulkupplung (151) montieren (Fig. 57).
- Umspulriemen (159) auf die Umspulkupplung (151) legen.
- Zugverminderungshebel (154) und Zugverminderungs-Kupplung (152) einbauen.

7.7 Rev Arm Unit (153), Rev Clutch Unit (151), Tension Release Lever (154), Tension Release Clutch Unit (152)

- Fit the Rev Arm Unit (153) and the Rev Clutch Unit (151), Fig. 57.
- Put the Rev Motor Timing Belt (159) onto the Rev Clutch Unit (151).
- Fit the Tension Release Lever (154) and Tension Release Clutch Unit (152).

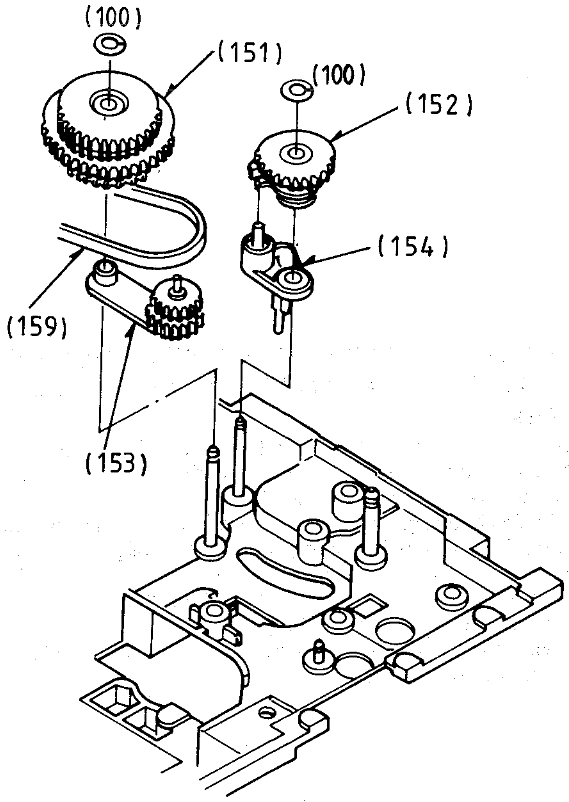

(100)
(151)
(100)
(152)
(154)
(159)
(153)

Fig. 57

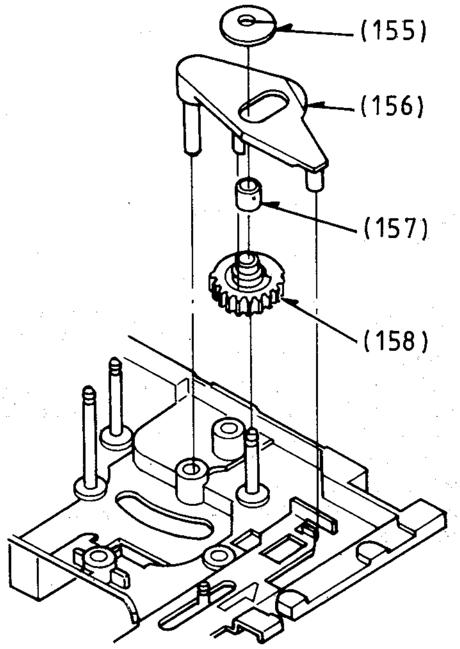

(155)
(156)
(157)
(158)

Fig. 58

7.8 Hilfshebelrad (158), Hilfshebel (156), Umspulkontrollhebel (160)

- Hilfshebelrad (158), Hilfshebel (156), Bremsring (157) und Scheibe (155) gemäß Fig. 58 montieren.
- Umspulkontrollhebel (160) gemäß Fig. 59 einbauen.

7.9 Riemenspannhebel (93)

- Riemenspannhebel (93) gemäß Fig. 60 montieren.
- Riemenspannung, wie in Kapitel 6.2 beschrieben, einstellen.

7.8 Sub Lever Cam (158), Sub Cam Follower (156), Review Control Lever (160)

- Fit the Sub Lever Cam (158), the Sub Cam Follower (156), the Rubber Stopper (157) and the Washer (155) as shown in Fig. 58.
- Fit the Review Control Lever (160) as shown in Fig. 59.

7.9 Tension Pulley Base Unit (93)

- Fit the Tension Pulley Base Unit (93) as shown in Fig. 60.
- Adjust the tension of the Timing Belt as described under point 6.2.

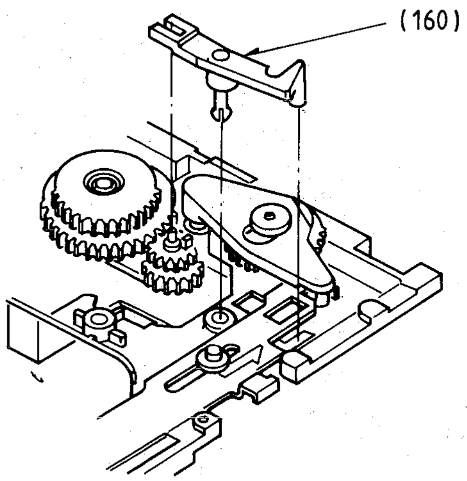


Fig. 59

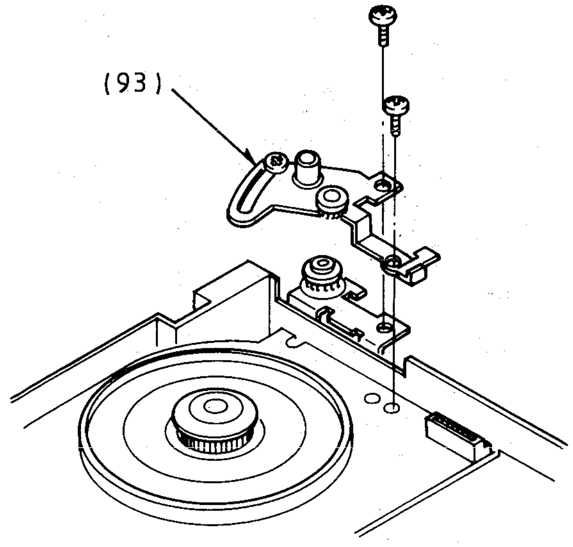


Fig. 60

7.10 Zwischenrad (65)

Hinweis: Bevor Sie das Zwischenrad einbauen, müssen sich alle Zahnräder in den bisher beschriebenen Positionen befinden.

- Zwischenrad (65) gemäß Abbildung Fig. 61 einsetzen. Die Markierungslöcher ⓐ des Zwischenrades (65) und des Kurvenrades (112) müssen sich gegenüberstehen.

7.10 Intermediate Gear (65)

Note: Before fitting the Intermediate Gear make sure that all other gears are in the positions described earlier.

- Fit the Intermediate Gear (65) as shown in Fig. 61. The marked holes ⓐ on the Intermediate Gear (65) and the Cam gear (112) must be aligned towards each other.

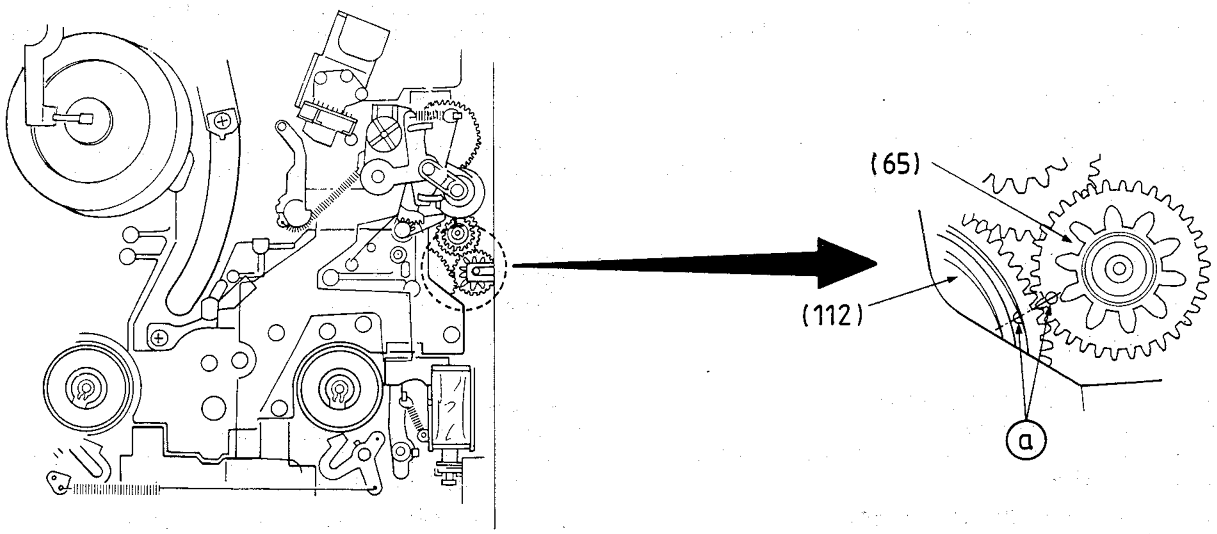


Fig. 61

7.11 Funktionswahlschalter (55), P5-Zahnsegment (50)

- Funktionswahlschalter (55) einsetzen, Schraube "g" eindrehen und Kontakte "h" anlöten (Fig. 62).
- P5-Zahnsegment (50) nach Abbildung Fig. 62 einsetzen. Das Markierungsloch ⓐ des P5-Zahnsegments (50) muß dem 1. Zahn des Zahnsegments des P5-Hebels (53) gegenüberstehen.

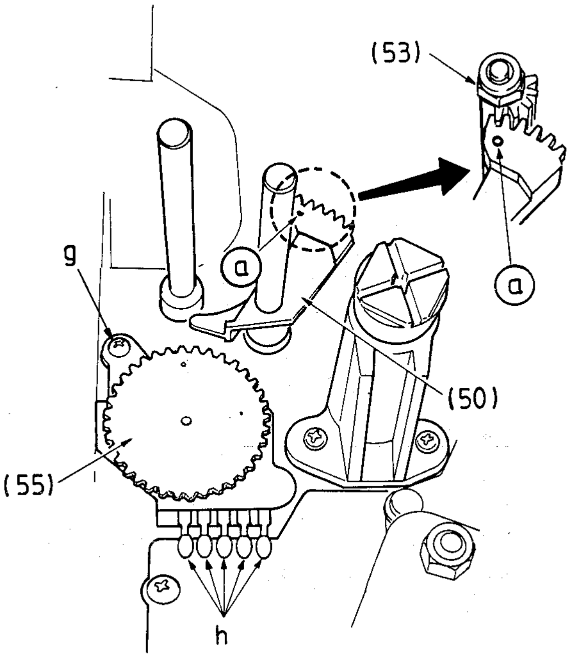


Fig. 62

7.12 Rollenhebelantrieb (51), Andruckrolleneinheit (45)

- Rollenhebelantrieb (51) so einsetzen, daß die Ecke " i " des P5-Hebels (53) in der Aussparung des Rollenhebelantriebs liegt (Fig. 63). Die Markierungsnase ⓓ am Zahnrad des Rollenhebelantriebs und das Markierungsloch ⓐ des Untersetzungszahnrads (64) müssen gegenüberstehen. Außerdem müssen die Markierungslöcher ⓑ des Funktionswahlschalters (55) und des Zahnrades des Rollenhebelantriebs (51) gegenüberstehen.
- Andruckrolleneinheit (45) und Sicherungskappe (44) einbauen.

8. Allgemeine Hinweise

- Die in Klammern angegebenen Zahlen sind mit den Positionsnummern in den Explosionszeichnungen und Ersatzteillisten identisch.
- Justagemarkierungen:

ⓐ kleine Markierungslöcher
ⓑ große Markierungslöcher
ⓒ Bezugsmarkierung im Laufwerk
ⓓ Markierungsnasen

Testcassette Sach-Nr. 9.27540 - 1011
- Farbtestbild mit Dropout-Einblendung
- 6,3 kHz-Senkrecht-Vollspuraufzeichnung und Bezugspegel 333 Hz in dreiminütigem Wechsel.

Testcassette (HiFi) Sach-Nr. 9.27540 - 1016
- Farbtestbild mit Dropout-Einblendung
- Längsspur - Ton: 6,3 kHz / 333 Hz
- FM-Ton: 1 kHz Vollpegel (± 50 kHz Hub)

Ersatzteilliste

Die Ersatzteilliste für das Laufwerk ist im Service Manual des betreffenden Videorecorders enthalten!

7.11 Mode Select Switch (55), P5 Toothed Segment (50)

- Fit the mode select switch (55), tighten the screw "g" and solder the contacts "h" (Fig. 62).
- Fit the P5 Toothed Segment (50) as shown in Fig. 62. The marked hole ⓐ on the P5 Toothed Segment (50) must be aligned towards the first tooth of the Tooth Segment on the P5 Lever (53).

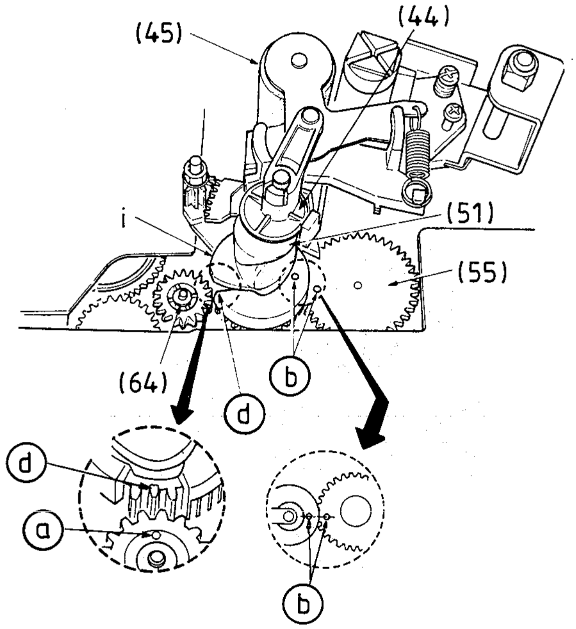


Fig. 63

7.12 Roller Lever Drive (51), Pressure Roller Assembly (45)

- Fit the Roller Lever Drive (51), so that the corner " i " of the P5 Lever (53) lies in the cut out on the Roller Lever Drive (Fig.63). The marked nose ⓓ on the toothed gear of the Roller Lever Drive and the marked hole ⓐ on the Reduction Toothed Gear (64) must be aligned towards each other. In addition, the marked holes ⓑ on the Mode Select Switch (55) and on the tooth gear of the Roller Lever Drive (51) must be aligned towards each other.
- Fit the Pressure Roller Assembly (45) and the Securing Cap (44).

8. General Notes

- The numbers quoted in brackets are the same as the position numbers given in the Exploded Diagrams and Spare Parts Lists.
- Alignment marks:

ⓐ Small marked holes
ⓑ Large marked holes
ⓒ Reference mark in the mechanics
ⓓ Marked lugs

Test cassette Part no. 9.27540 - 1011
- Colour test pattern with dropout recording
- 6.3 kHz vertical full-track recording alternating with 333 Hz reference level every 3 minutes.

Test cassette (HiFi) Part no. 9.27540 - 1016
- Colour test pattern with dropout recording
- Longitudinal track sound: 6.3 kHz / 333 Hz
- FM sound: 1 kHz full level (± 50 kHz deviation)

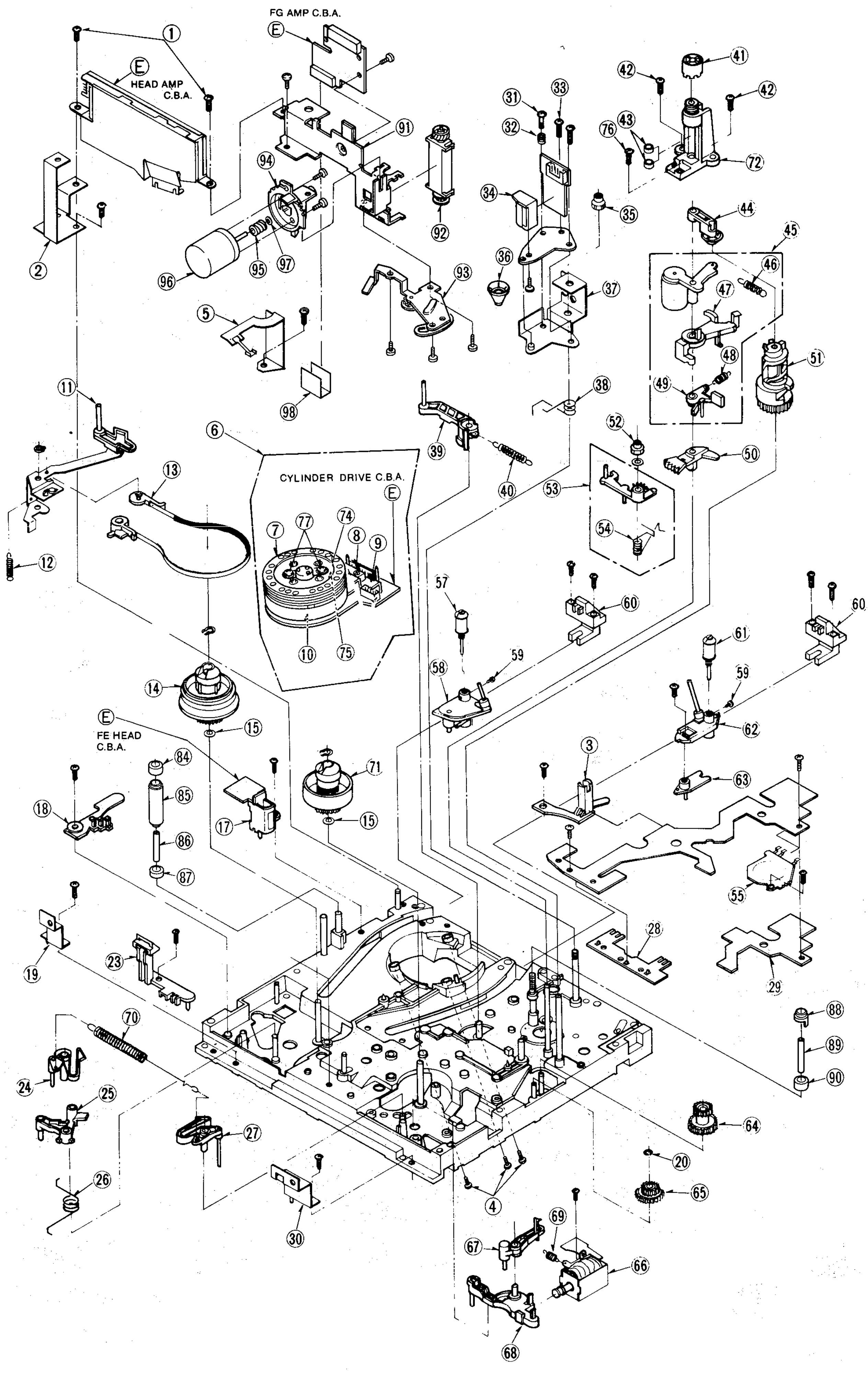
Spare parts list

The Service Manual of the video recorder referred to contains the spare parts list of the drive mechanism!

Explosionszeichnungen

Exploded views

1


FG AMP C.B.A.
Ⓔ
HEAD AMP C.B.A.
CYLINDER DRIVE C.B.A.
FE HEAD C.B.A.
①
②
③
④
⑤
⑥
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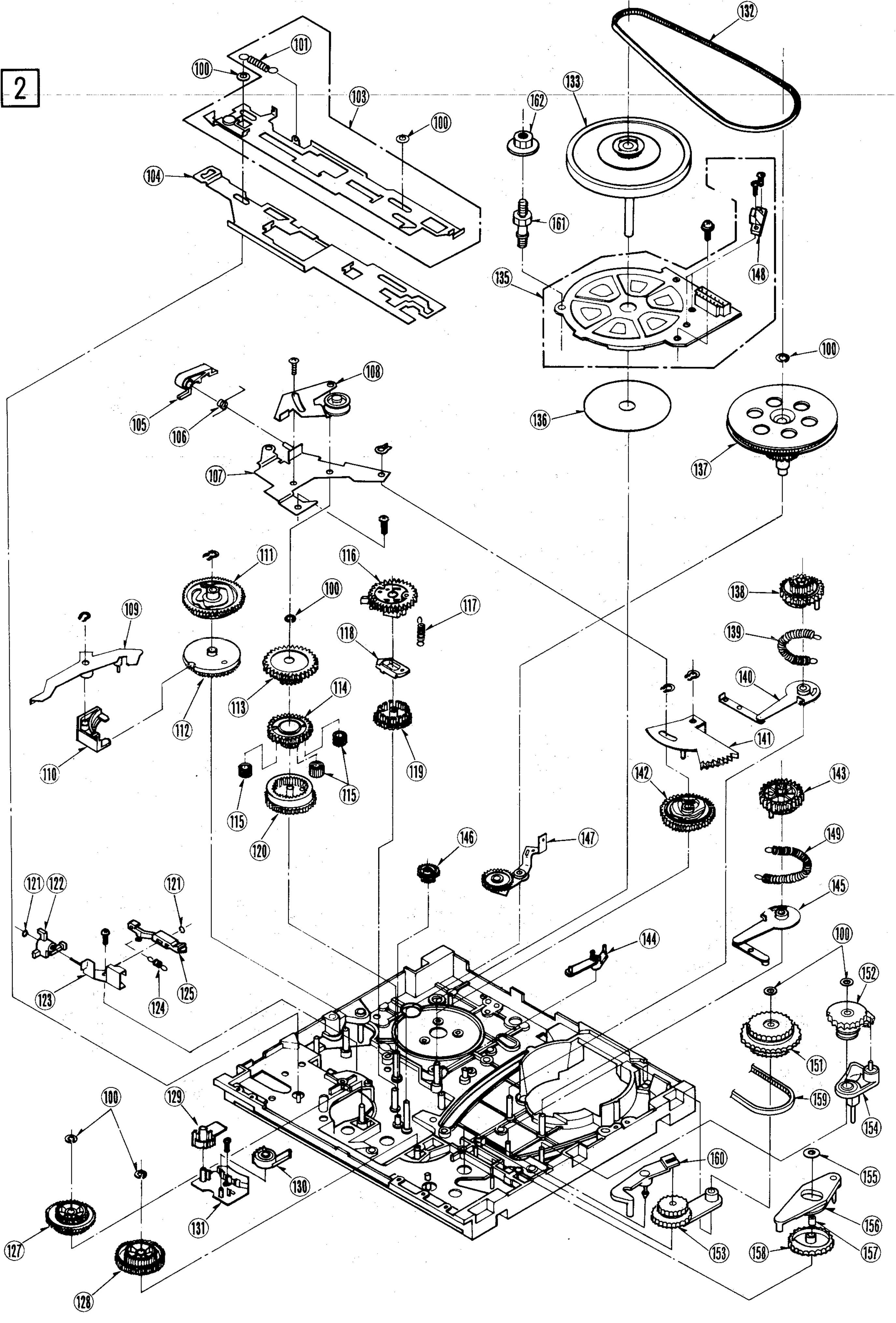
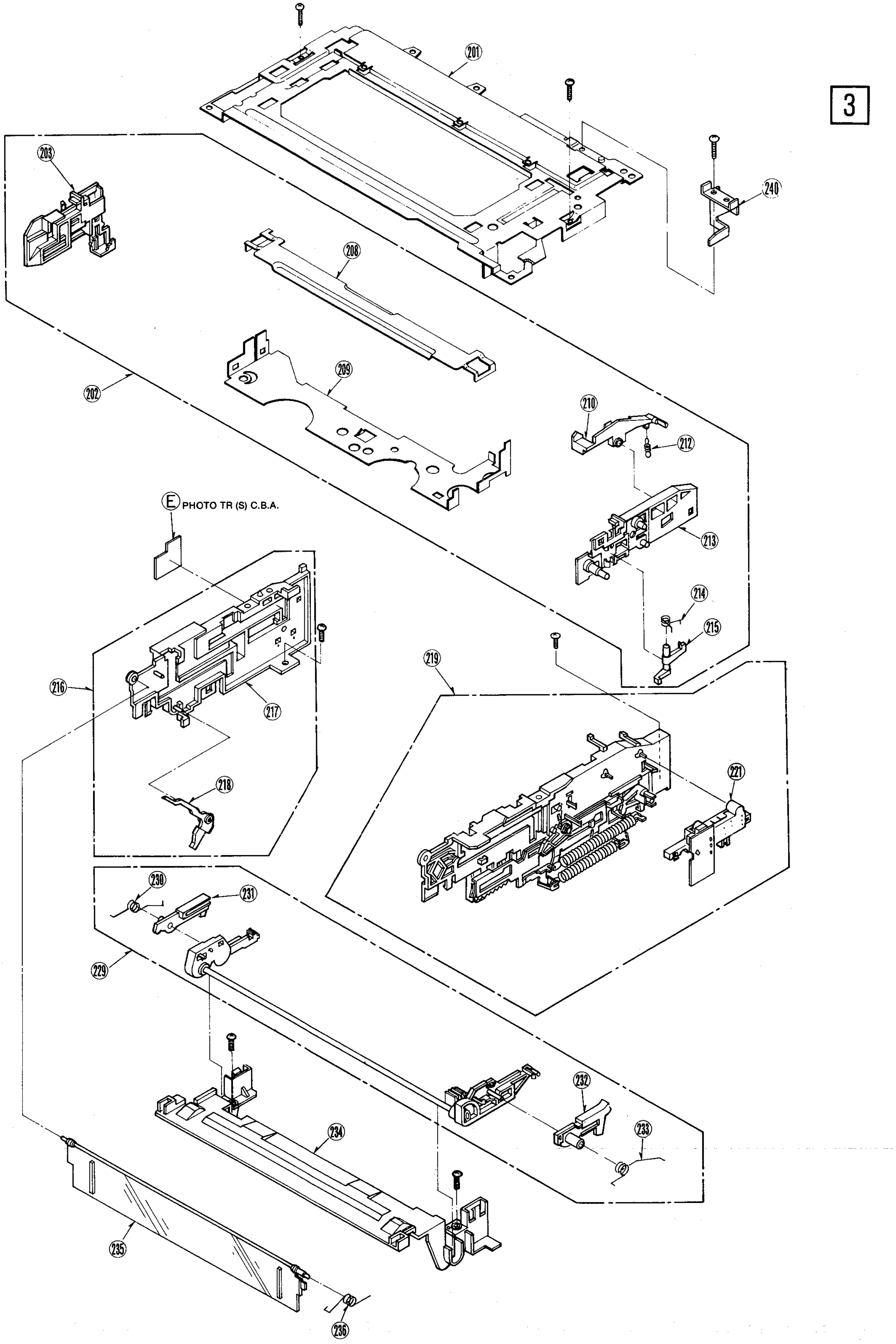
2

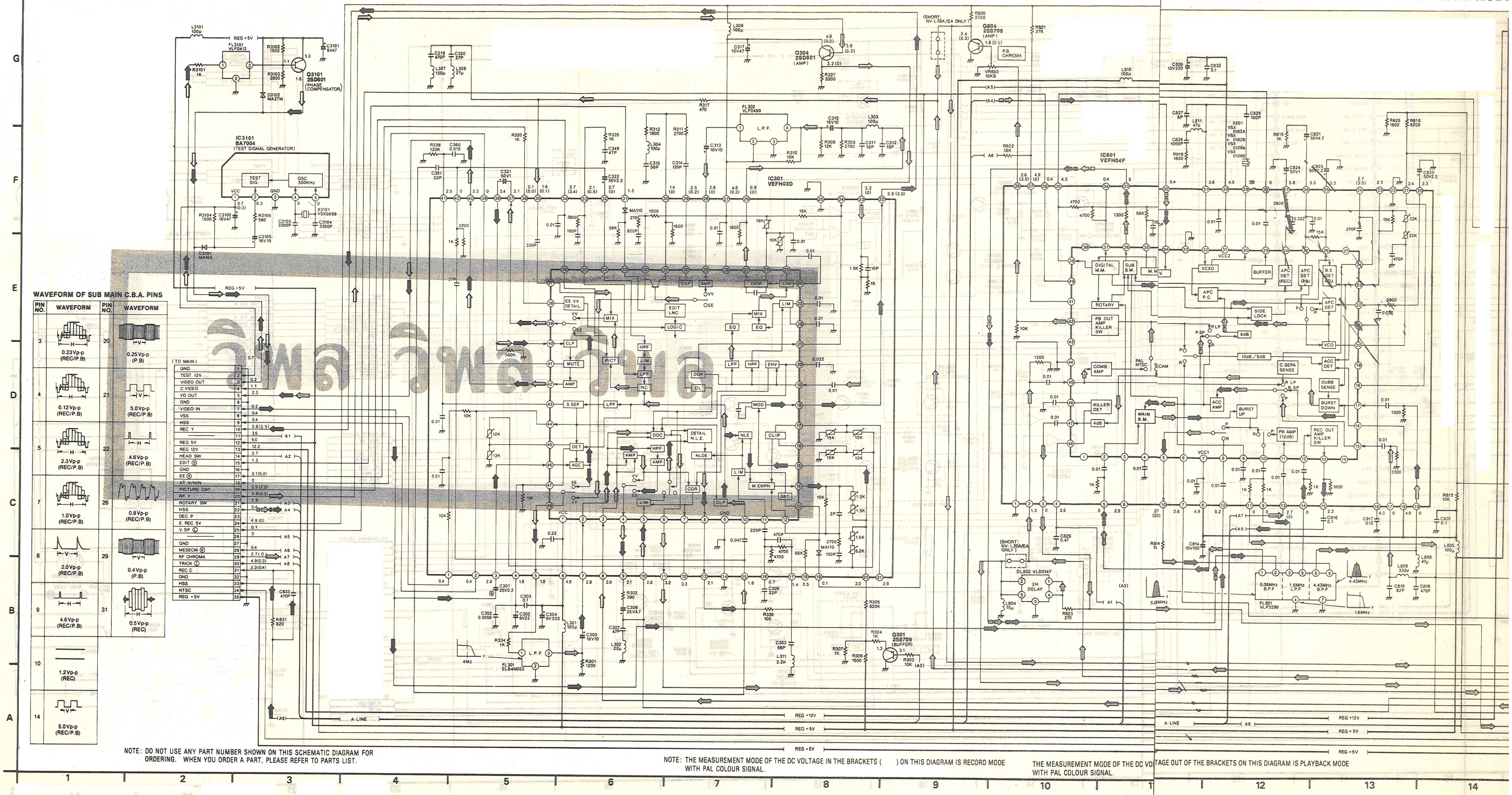



E PHOTO TR (S) C.B.A.

3-8. SUB MAIN SCHEMATIC DIAGRAM

MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL PATH IN PLAYBACK MODE

5.06MHz PHASE ROTATIONAL SIGNAL IN REC MODE
5.06MHz PHASE ROTATIONAL SIGNAL IN PLAYBACK MODE


WAVEFORM OF SUB MAIN C.B.A. PINS
PIN NO. 3 — 0.23Vp-p (REC/P.B)
PIN NO. 4 — 0.12Vp-p (REC/P.B)
PIN NO. 5 — 2.3Vp-p (REC/P.B)
PIN NO. 7 — 1.0Vp-p (REC/P.B)
PIN NO. 8 — 2.0Vp-p (REC/P.B)
PIN NO. 9 — 4.6Vp-p (REC/P.B)
PIN NO. 10 — 1.2Vp-p (REC)
PIN NO. 14 — 5.0Vp-p (REC/P.B)
PIN NO. 20 — 0.25Vp-p (P.B)
PIN NO. 21 — 5.0Vp-p (REC/P.B)
PIN NO. 22 — 4.6Vp-p (REC/P.B)
PIN NO. 26 — 0.8Vp-p (REC/P.B)
PIN NO. 29 — 0.4Vp-p (P.B)
PIN NO. 31 — 0.5Vp-p (REC)
(TO MAIN)
1 GND
2 TEST 12V
3 VIDEO OUT 0.2
4 C.VIDEO 1.1
5 VD OUT 2.3
6 GND
7 VIDEO IN 0.2
8 VSS 0.4
9 HSS 0.4
10 REC Y 3.9(3.5)
11 3.5 (A1)
12 REG 5V 5.0
13 REG 12V 12.2
14 HEAD SW 2.7 (A2)
15 EDIT Ⓗ 1.3
16 GND
17 EE Ⓗ 0.1(5.0)
18 AT V/H/N 0
19 PICTURE CNT 2.5(2.2)
20 RF Y 3.8(0.3)
21 ROTARY SW 2.9 (A3)
22 HSS 0.4 (A4)
23 DEC. P
24 E.REC 5V 4.9(0)
25 V.SP Ⓛ 0.1
26 0 (A5)
27 GND
28 MESECM Ⓗ 0.4 (A6)
29 RF CHROMA 2.7(0) (A7)
30 TRICK Ⓛ 4.9(0.3) (A8)
31 REC C 2.3(0.4)
32 GND
33 HSS
34 NTSC
35 REG +5V
C833 470P
R831 820
IC3101 BA7004 (TEST SIGNAL GENERATOR)
TEST SIG.
OSC 500KHz
Q3101 2SD601 (PHASE COMPENSATOR)
FL3101 VLF0413
X3101 VSX0099
D3101 MA165
D3102 MA27W
IC301 VEFH03D
Q304 2SD601 (AMP)
Q301 2SB709 (BUFFER)
FL301 ELB4M022
FL302 VLF0499
IC801 VEFH04F
Q804 2SB709 (AMP)
P.B CHROMA
(SHORT: NV-L20A/EA ONLY)
DL802 VLD0147
2H DELAY
FL801 VLF0299
5.06MHz B.P.F
1.6MHz L.P.F
4.43MHz B.P.F
EE VV DETAIL
CLP
MUTE
AMP
S.SEP
DET
AGC
MIX
PICT
HPF
LIM
LPF
INC
LOGIC
EDIT LNC
EXP
DEM
EQ
DOP
DL
ENV
MOD
DOC
DETAIL N.L.E.
NLDE
NLE
CLIP
M.EMPH
COR
DIGITAL M.M.
SUB B.M.
ROTARY
PB OUT AMP KILLER SW
COMB AMP
KILLER DET
MAIN B.M.
VCXO
APC P.C.
BUFFER
APC DET (REC)
APC DET (PB)
B.E. DET ADJ
AFC DET
SIDE LOCK
VCO
C.SEPA SENSE
ACC DET
DUBB SENSE
BURST DOWN
ACC AMP
BURST UP
PB AMP (12dB)
REC OUT AMP KILLER SW
A-LINE
REG +12V
REG +5V
1
2
3
4
5
6
7
8
9
10
11
12
13
14
A
B
C
D
E
F
G

วิพล วิพล วิพล

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

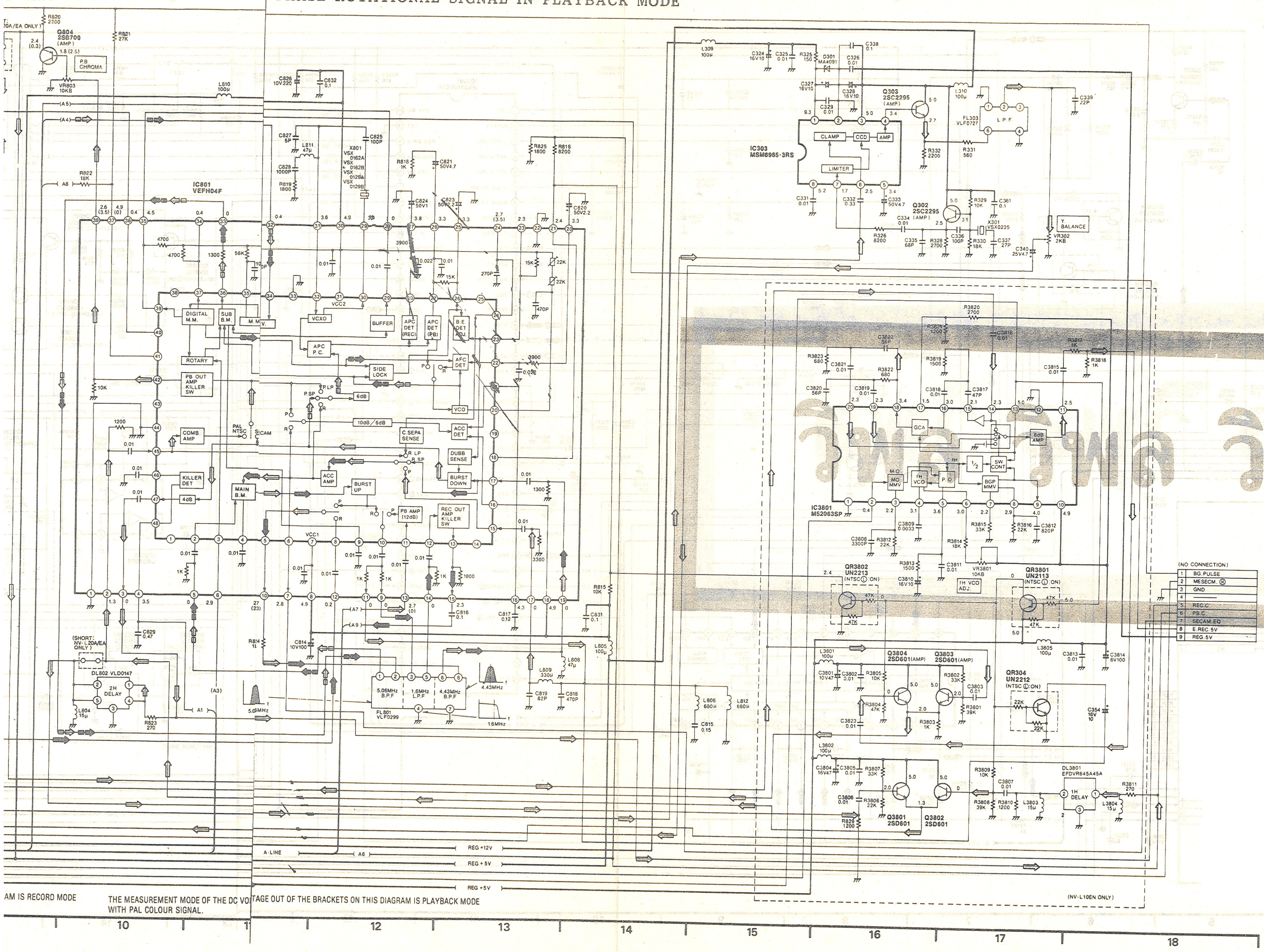
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.

THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

Back Page:
SYSTEM CONTROL & SERVO Section

DE
CK MODE

5.06MHz PHASE ROTATIONAL SIGNAL IN REC MODE
5.06MHz PHASE ROTATIONAL SIGNAL IN PLAYBACK MODE


IC801 VEFH04F
Q804 2SB709 (AMP)
PB CHROMA
VR803 10KB
IC303 MSM6965-3RS
CLAMP
CCD
AMP
LIMITER
Q303 2SC2295 (AMP)
Q302 2SC2295
FL303 VLF0727
L P F
Y BALANCE
VR302 2KB
X301 VSX0225
X801 VSX 0162A VSX 0162B VSX 0129A VSX 0129B
DIGITAL M.M.
SUB B.M.
M.M.
ROTARY
PB OUT AMP KILLER SW
COMB. AMP
KILLER DET
MAIN B.M.
VCXO
BUFFER
APC DET (REC)
APC DET (PB)
B.E DET ADJ.
APC P.C.
SIDE LOCK
AFC DET
VCO
ACC DET
C.SEPA SENSE
DUBB SENSE
BURST DOWN
ACC AMP
BURST UP
PB AMP (12dB)
REC OUT AMP KILLER SW
VCC1
VCC2
6dB
10dB / 6dB
PAL NTSC
SECAM
5.06MHz B.P.F
1.6MHz L.P.F
4.43MHz B.P.F
FL801 VLF0299
4.43MHz
1.6MHz
5.06MHz
DL802 VLD0147
2H DELAY
(SHORT: NV-L20A/EA ONLY)
IC3801 M52063SP
GCA
1H VCO
BGP MMV
SW CONT
1H VCO ADJ.
QR3802 UN2213 (NTSC ON)
QR3801 UN2113 (NTSC ON)
QR304 UN2212 (NTSC ON)
Q3804 2SD601 (AMP)
Q3803 2SD601 (AMP)
Q3801 2SD601
Q3802 2SD601
DL3801 EFDVR645A45A
1H DELAY
(NO CONNECTION)
1 BG.PULSE
2 MESECM.
3 GND
4
5 REC.C
6 PB.C
7 SECAM EQ
8 E REC 5V
9 REG.5V
REG +12V
REG +5V
A-LINE
A6
(NV-L10EN ONLY)
10
12
13
14
15
16
17
18

AM IS RECORD MODE

THE MEASUREMENT MODE OF THE DC VO TAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

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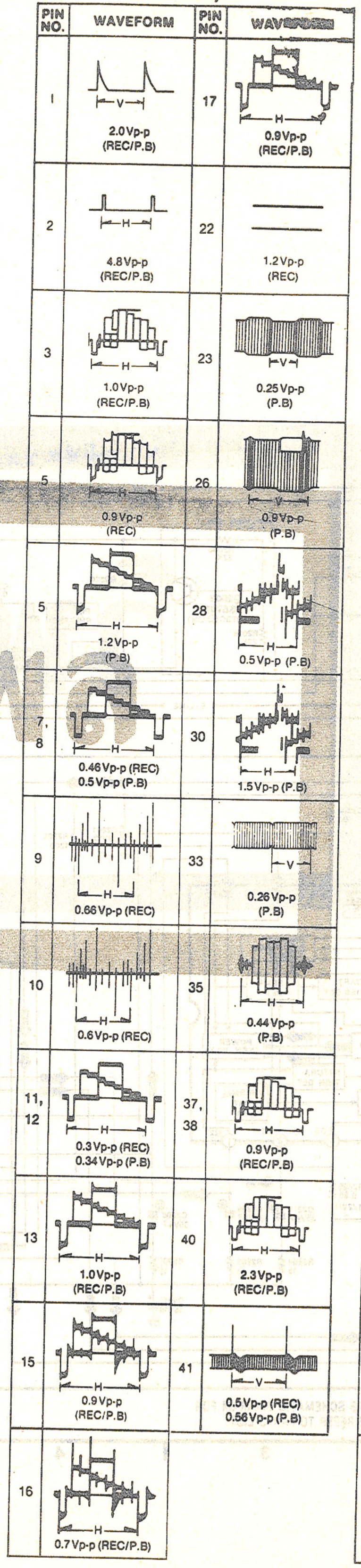
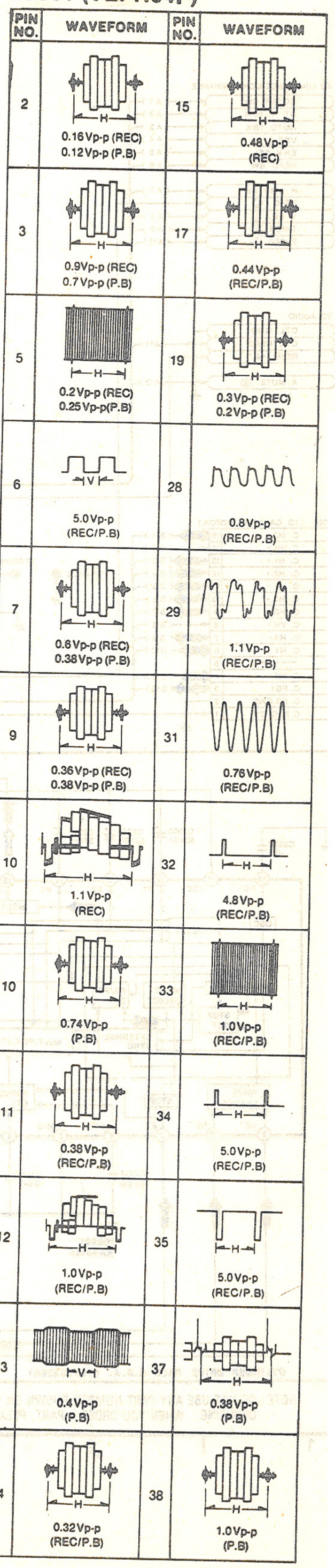
IC301 (VEFH03D)



PIN NO.	WAVEFORM	PIN NO.	WAV[illegible]
1	2.0Vp-p (REC/P.B)	17	0.9Vp-p (REC/P.B)
2	4.8Vp-p (REC/P.B)	22	1.2Vp-p (REC)
3	1.0Vp-p (REC/P.B)	23	0.25Vp-p (P.B)
5	0.9Vp-p (REC)	26	0.9Vp-p (P.B)
5	1.2Vp-p (P.B)	28	0.5Vp-p (P.B)
7, 8	0.46Vp-p (REC) 0.5Vp-p (P.B)	30	1.5Vp-p (P.B)
9	0.66Vp-p (REC)	33	0.26Vp-p (P.B)
10	0.6Vp-p (REC)	35	0.44Vp-p (P.B)
11, 12	0.3Vp-p (REC) 0.34Vp-p (P.B)	37, 38	0.9Vp-p (REC/P.B)
13	1.0Vp-p (REC/P.B)	40	2.3Vp-p (REC/P.B)
15	0.9Vp-p (REC/P.B)	41	0.5Vp-p (REC) 0.56Vp-p (P.B)
16	0.7Vp-p (REC/P.B)		

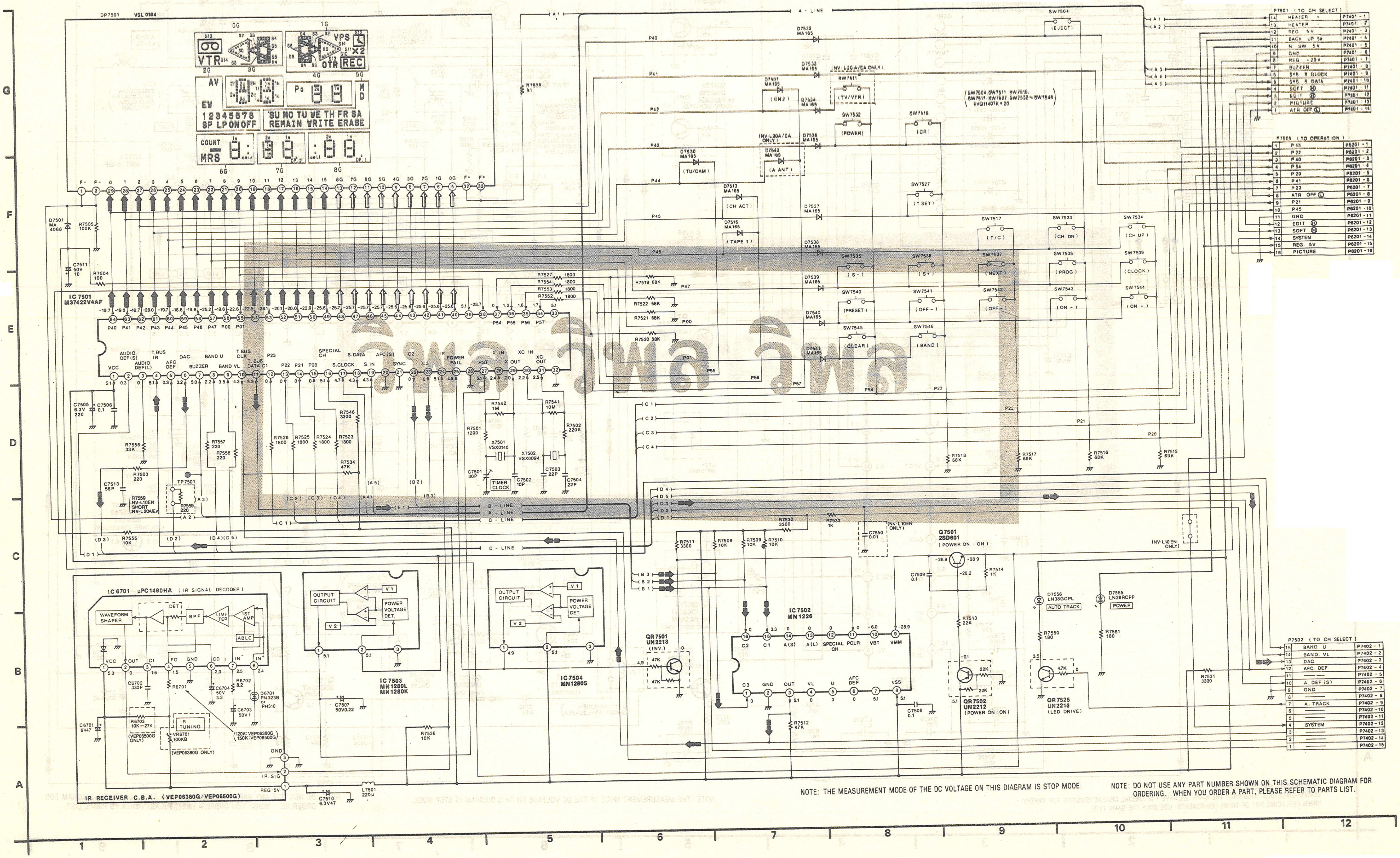
IC801 (VEFH04F)



PIN NO.	WAVEFORM	PIN NO.	WAVEFORM
2	0.16Vp-p (REC) 0.12Vp-p (P.B)	15	0.48Vp-p (REC)
3	0.9Vp-p (REC) 0.7Vp-p (P.B)	17	0.44Vp-p (REC/P.B)
5	0.2Vp-p (REC) 0.25Vp-p(P.B)	19	0.3Vp-p (REC) 0.2Vp-p (P.B)
6	5.0Vp-p (REC/P.B)	28	0.8Vp-p (REC/P.B)
7	0.6Vp-p (REC) 0.38Vp-p (P.B)	29	1.1Vp-p (REC/P.B)
9	0.36Vp-p (REC) 0.38Vp-p (P.B)	31	0.76Vp-p (REC/P.B)
10	1.1Vp-p (REC)	32	4.8Vp-p (REC/P.B)
10	0.74Vp-p (P.B)	33	1.0Vp-p (REC/P.B)
11	0.38Vp-p (REC/P.B)	34	5.0Vp-p (REC/P.B)
12	1.0Vp-p (REC/P.B)	35	5.0Vp-p (REC/P.B)
13	0.4Vp-p (P.B)	37	0.38Vp-p (P.B)
14	0.32Vp-p (REC/P.B)	38	1.0Vp-p (P.B)

3-21. TIMER SCHEMATIC DIAGRAM

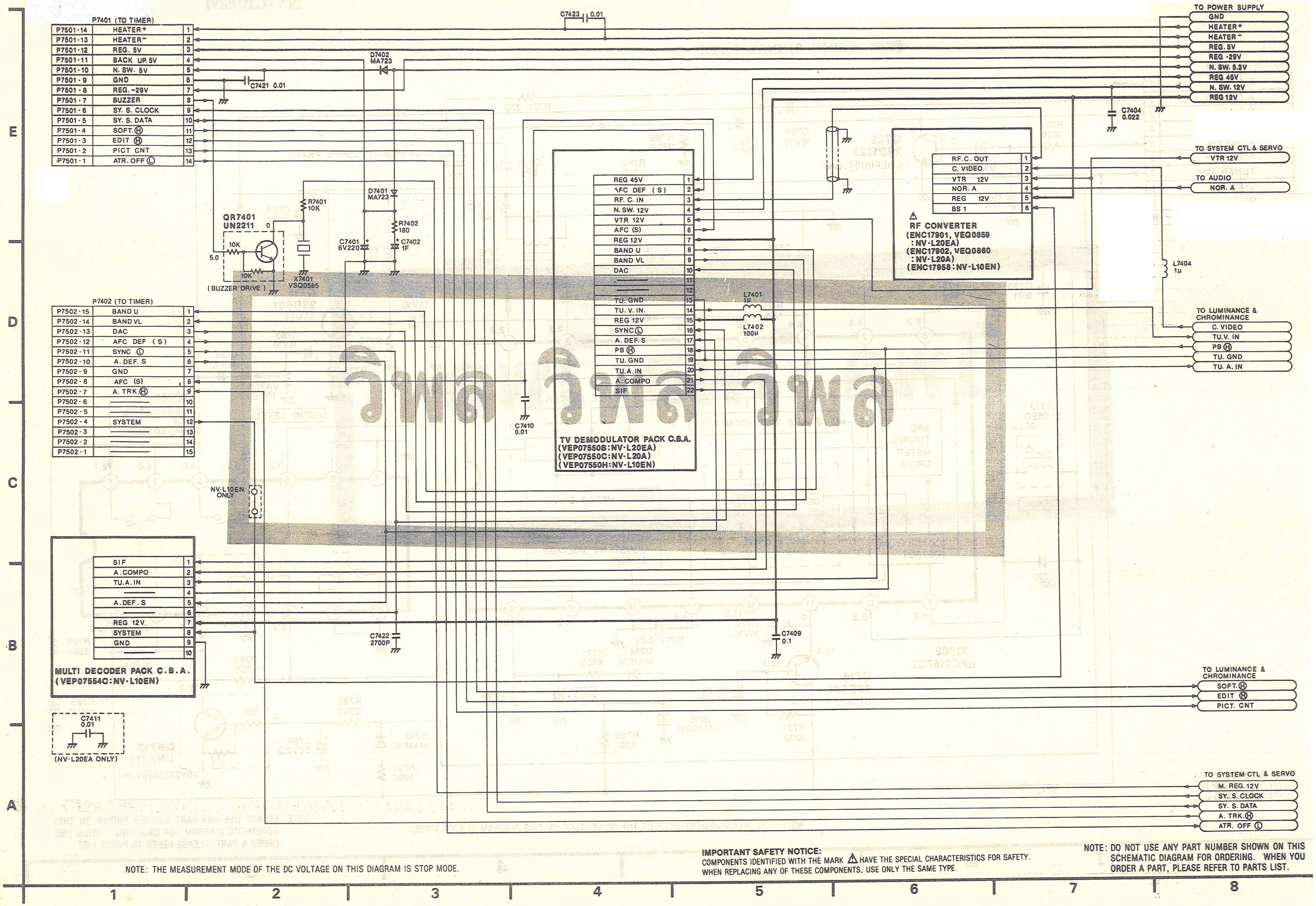
SEGMENT CONTROL SIGNAL GRID CONTROL SIGNAL TUNE CONTROL SIGNAL


DP7501 VSL 0184
VTR
VPS
OTR
REC
AV
EV
12345678
SU MO TU WE TH FR SA
SP LP ON OFF
REMAIN WRITE ERASE
COUNT
MRS
IC 7501
M37422V4AF
P40 P41 P42 P43 P44 P45 P46 P47 P00 P01
P54 P55 P56 P57
VCC
AUDIO DEF(S)
AUDIO DEF(L)
T.BUS IN
AFC DEF
DAC
BUZZER
BAND U
BAND VL
T.BUS CLK
T.BUS DATA
C1
P23
P22
P21
P20
SPECIAL CH
S.CLOCK
S.DATA
S.IN
AFC(S)
SYNC
C2
C3
IR
POWER FAIL
RST
X IN
X OUT
XC IN
XC OUT
D7501 MA4068
R7505 100K
C7511 50V 10
R7504 100
C7505 6.3V 220
C7506 0.1
R7556 33K
R7557 220
R7558 220
R7503 220
C7513 56P
TP7501
R7559 (NV-L10EN SHORT NV-L20A/EA)
R7559 220
R7526 1800
R7525 1800
R7524 1800
R7523 1800
R7546 3300
R7534 47K
R7542 1M
R7541 10M
R7501 1200
X7501 VSX0140
X7502 VSX0094
R7502 220K
C7501 30P
TIMER CLOCK
C7502 10P
C7503 22P
C7504 22P
R7527 1800
R7554 1800
R7553 1800
R7552 1800
R7519 68K
R7522 68K
R7521 68K
R7535 5.1
A - LINE
B - LINE
C - LINE
D - LINE
R7555 10K
D7532 MA165
D7533 MA165
D7507 MA165
D7534 MA165
D7536 MA165
D7542 MA165
D7530 MA165
D7513 MA165
D7516 MA165
D7537 MA165
D7538 MA165
D7539 MA165
D7540 MA165
D7541 MA165
(NV-L20A/EA ONLY)
(NV-L30A/EA ONLY)
SW7504 (EJECT)
SW7511 (TV/VTR)
SW7532 (POWER)
SW7516 (CR)
(CH2)
(TU/CAM)
(A ANT)
(CH ACT)
(TAPE 1)
SW7527 (T.SET)
SW7517 (T/C)
SW7533 (CH ON)
SW7534 (CH UP)
SW7535 (S-)
SW7536 (S+)
SW7537 (NEXT)
SW7538 (PROG)
SW7539 (CLOCK)
SW7540 (PRESET)
SW7541 (OFF-)
SW7542 (OFF+)
SW7543 (ON-)
SW7544 (ON+)
SW7545 (CLEAR)
SW7546 (BAND)
(SW7504, SW7511, SW7516 SW7517, SW7527, SW7532 ~ SW7546 EVQ11407K x 20)
R7518 68K
R7517 68K
R7516 68K
R7515 68K
P7501 (TO CH SELECT)
14 HEATER P7401-1
13 HEATER P7401-2
12 REG 5V P7401-3
11 BACK UP 5V P7401-4
10 N SW 5V P7401-5
9 GND P7401-6
8 REG 29V P7401-7
7 BUZZER P7401-8
6 SYS S CLOCK P7401-9
5 SYS S DATA P7401-10
4 SOFT P7401-11
3 EDIT P7401-12
2 PICTURE P7401-13
1 ATR OFF P7401-14
P7505 (TO OPERATION)
1 P43 P6201-1
2 P22 P6201-2
3 P40 P6201-3
4 P54 P6201-4
5 P20 P6201-5
6 P41 P6201-6
7 P23 P6201-7
8 ATR OFF P6201-8
9 P21 P6201-9
10 P45 P6201-10
11 GND P6201-11
12 EDIT P6201-12
13 SOFT P6201-13
14 SYSTEM P6201-14
15 REG 5V P6201-15
16 PICTURE P6201-16
R7532 3300
R7533 1K
C7550 0.01 (NV-L10EN ONLY)
R7511 3300
R7508 10K
R7509 10K
R7510 10K
Q7501 2SD601 (POWER ON : ON)
C7509 0.1
R7514 1K
R7513 22K
D7556 LN38GCPL AUTO TRACK
D7555 LN28RCPP POWER
R7550 180
R7551 180
IC 7502 MN1226
C2 C1 A(S) A(L) SPECIAL CH PCLR VBT VMM
C3 GND OUT VL U AFC DEF VSS
QR7501 UN2213 (INV.)
R7512 47K
C7508 0.1
QR7502 UN2212 (POWER ON : ON)
QR7525 UN2218 (LED DRIVE)
R7531 3300
P7502 (TO CH SELECT)
15 BAND U P7402-1
14 BAND VL P7402-2
13 DAC P7402-3
12 AFC DEF P7402-4
11 P7402-5
10 A.DEF(S) P7402-6
9 GND P7402-7
8 P7402-8
7 A.TRACK P7402-9
6 P7402-10
5 P7402-11
4 P7402-12
3 SYSTEM P7402-13
2 P7402-14
1 P7402-15
IC 6701 µPC1490HA (IR SIGNAL DECODER)
WAVEFORM SHAPER
DET
BPF
LIMITER
1ST AMP
ABLC
VCC OUT C1 FO GND CD IN IN
C6702 330P
R6701
C6704 50V 3.3
R6702 8.2
C6703 50V 1
D6701 PN323B or PH310
C6701 6V47
IR6703 10K~27K (VEP06500G ONLY)
VR6701 100KB IR TUNING (VEP06380G ONLY)
(120K: VEP06380G, 150K: VEP06500G)
GND
IR SIG
REG 5V
IR RECEIVER C.B.A. (VEP06380G/VEP06500G)
C7510 6.3V47
L7501 220µ
OUTPUT CIRCUIT
POWER VOLTAGE DET.
V1
V2
IC 7503 MN1280L MN1280K
C7507 50V0.22
R7538 10K
IC 7504 MN1280S
(NV-L10EN ONLY)
1 2 3 4 5 6 7 8 9 10 11 12
A B C D E F G

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-14. CHANNEL SELECT SCHEMATIC DIAGRAM

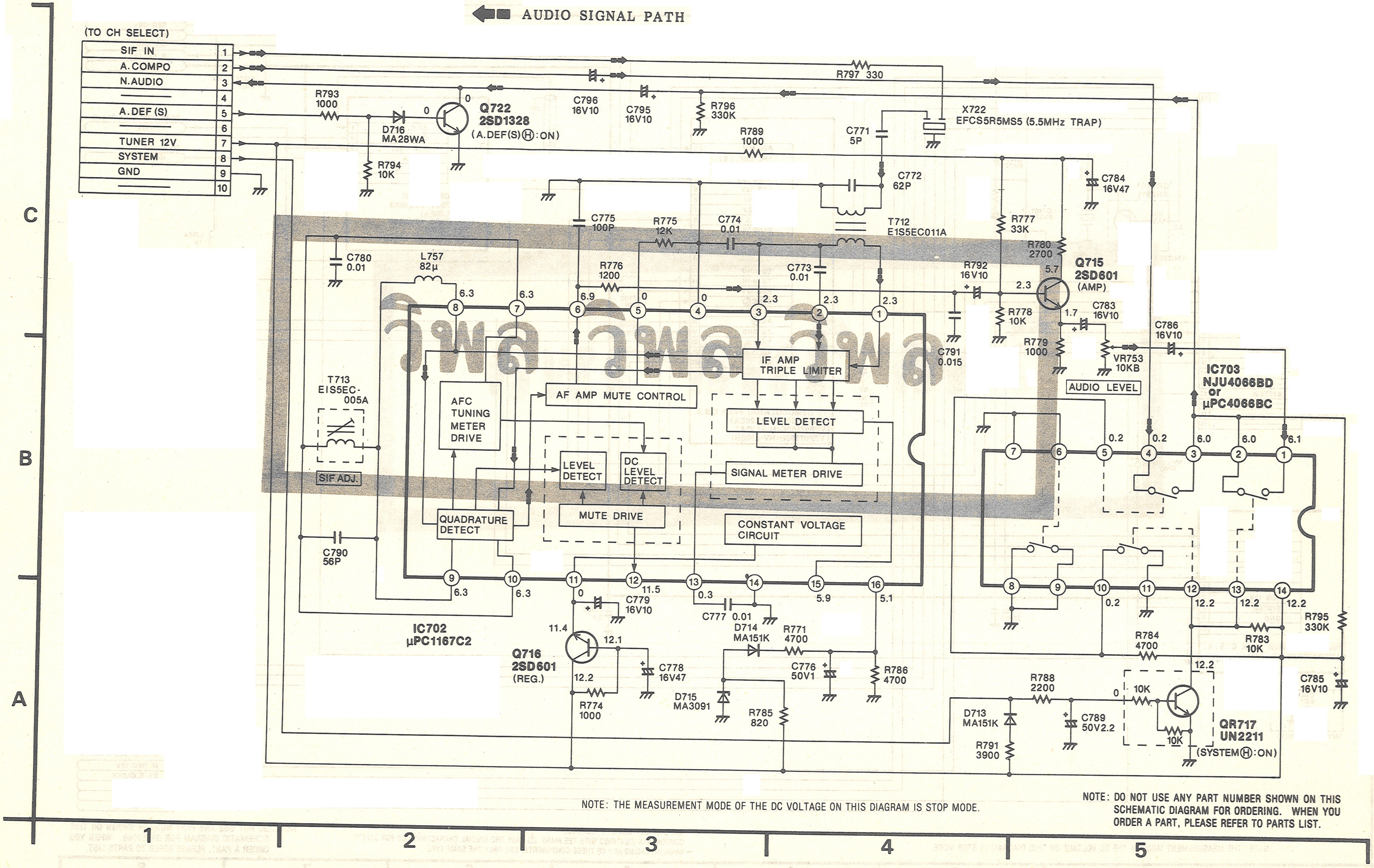

P7401 (TO TIMER)
P7501-14 HEATER+ 1
P7501-13 HEATER− 2
P7501-12 REG. 5V 3
P7501-11 BACK UP 5V 4
P7501-10 N. SW. 5V 5
P7501-9 GND 6
P7501-8 REG. −29V 7
P7501-7 BUZZER 8
P7501-6 SY. S. CLOCK 9
P7501-5 SY. S. DATA 10
P7501-4 SOFT.Ⓗ 11
P7501-3 EDIT Ⓗ 12
P7501-2 PICT CNT 13
P7501-1 ATR. OFF Ⓛ 14
C7423 0.01
C7421 0.01
D7402 MA723
D7401 MA723
R7401 10K
R7402 180
C7401 6V220
C7402 1F
QR7401 UN2211
0
10K
10K
5.0
(BUZZER DRIVE)
X7401 VSQ0565
P7402 (TO TIMER)
P7502-15 BAND U 1
P7502-14 BAND VL 2
P7502-13 DAC 3
P7502-12 AFC DEF (S) 4
P7502-11 SYNC Ⓛ 5
P7502-10 A. DEF. S 6
P7502-9 GND 7
P7502-8 AFC (S) 8
P7502-7 A. TRK.Ⓗ 9
P7502-6 10
P7502-5 11
P7502-4 SYSTEM 12
P7502-3 13
P7502-2 14
P7502-1 15
NV-L10EN ONLY
REG 45V 1
AFC DEF (S) 2
RF. C. IN 3
N. SW. 12V 4
VTR 12V 5
AFC (S) 6
REG 12V 7
BAND U 8
BAND VL 9
DAC 10
11
12
TU. GND 13
TU. V. IN. 14
REG 12V 15
SYNC Ⓛ 16
A. DEF. S 17
PB Ⓗ 18
TU. GND 19
TU. A. IN 20
A. COMPO 21
SIF 22
TV DEMODULATOR PACK C.B.A.
(VEP07550B:NV-L20EA)
(VEP07550C:NV-L20A)
(VEP07550H:NV-L10EN)
C7410 0.01
L7401 1µ
L7402 100µ
RF.C. OUT 1
C. VIDEO 2
VTR 12V 3
NOR. A 4
REG 12V 5
BS 1 6
⚠ RF CONVERTER
(ENC17901, VEQ0859 : NV-L20EA)
(ENC17902, VEQ0860 : NV-L20A)
(ENC17958 : NV-L10EN)
C7404 0.022
L7404 1µ
TO POWER SUPPLY
GND
HEATER+
HEATER−
REG. 5V
REG -29V
N. SW. 5.3V
REG 45V
N. SW. 12V
REG 12V
TO SYSTEM CTL & SERVO
VTR 12V
TO AUDIO
NOR. A
TO LUMINANCE & CHROMINANCE
C. VIDEO
TU.V. IN
PB Ⓗ
TU. GND
TU. A. IN
SIF 1
A.COMPO 2
TU.A.IN 3
4
A.DEF.S 5
6
REG 12V 7
SYSTEM 8
GND 9
10
MULTI DECODER PACK C.B.A.
(VEP07554C:NV-L10EN)
C7422 2700P
C7409 0.1
C7411 0.01
(NV-L20EA ONLY)
TO LUMINANCE & CHROMINANCE
SOFT.Ⓗ
EDIT Ⓗ
PICT. CNT
TO SYSTEM CTL & SERVO
M. REG. 12V
SY. S. CLOCK
SY. S. DATA
A. TRK.Ⓗ
ATR. OFF Ⓛ
E
D
C
B
A
1
2
3
4
5
6
7
8

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-17. MULTI DECODER PACK SCHEMATIC DIAGRAM

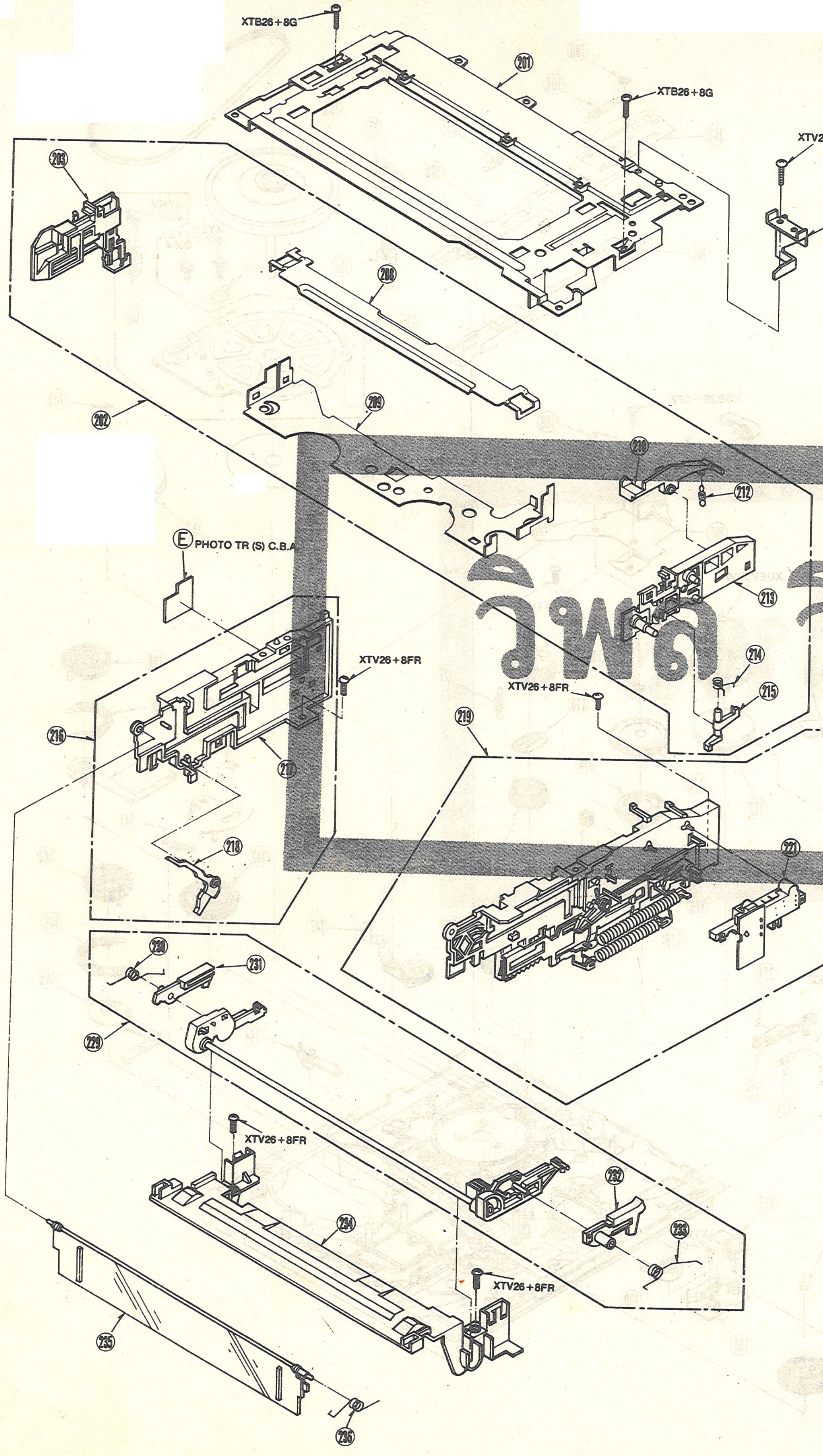

AUDIO SIGNAL PATH
(TO CH SELECT)
SIF IN 1
A.COMPO 2
N.AUDIO 3
4
A.DEF (S) 5
6
TUNER 12V 7
SYSTEM 8
GND 9
10
R793 1000
D716 MA28WA
R794 10K
Q722 2SD1328
(A.DEF(S)Ⓗ:ON)
C796 16V10
C795 16V10
R796 330K
R797 330
R789 1000
C771 5P
X722 EFCS5R5MS5 (5.5MHz TRAP)
C772 62P
C784 16V47
T712 E1S5EC011A
C775 100P
R775 12K
C774 0.01
C780 0.01
L757 82μ
R776 1200
C773 0.01
R777 33K
R780 2700
R792 16V10
Q715 2SD601 (AMP)
R778 10K
C783 16V10
C791 0.015
R779 1000
VR753 10KB
AUDIO LEVEL
C786 16V10
T713 EIS5EC-005A
SIF ADJ.
IF AMP TRIPLE LIMITER
AFC TUNING METER DRIVE
AF AMP MUTE CONTROL
LEVEL DETECT
LEVEL DETECT
DC LEVEL DETECT
SIGNAL METER DRIVE
MUTE DRIVE
QUADRATURE DETECT
CONSTANT VOLTAGE CIRCUIT
C790 56P
IC702 μPC1167C2
IC703 NJU4066BD or μPC4066BC
Q716 2SD601 (REG.)
C779 16V10
C778 16V47
R774 1000
C777 0.01
D714 MA151K
R771 4700
C776 50V1
D715 MA3091
R785 820
R786 4700
R784 4700
R783 10K
R795 330K
C785 16V10
R788 2200
D713 MA151K
C789 50V2.2
R791 3900
QR717 UN2211
(SYSTEMⒽ:ON)
10K
10K
A
B
C
1
2
3
4
5

วิพล วิพล วิพล

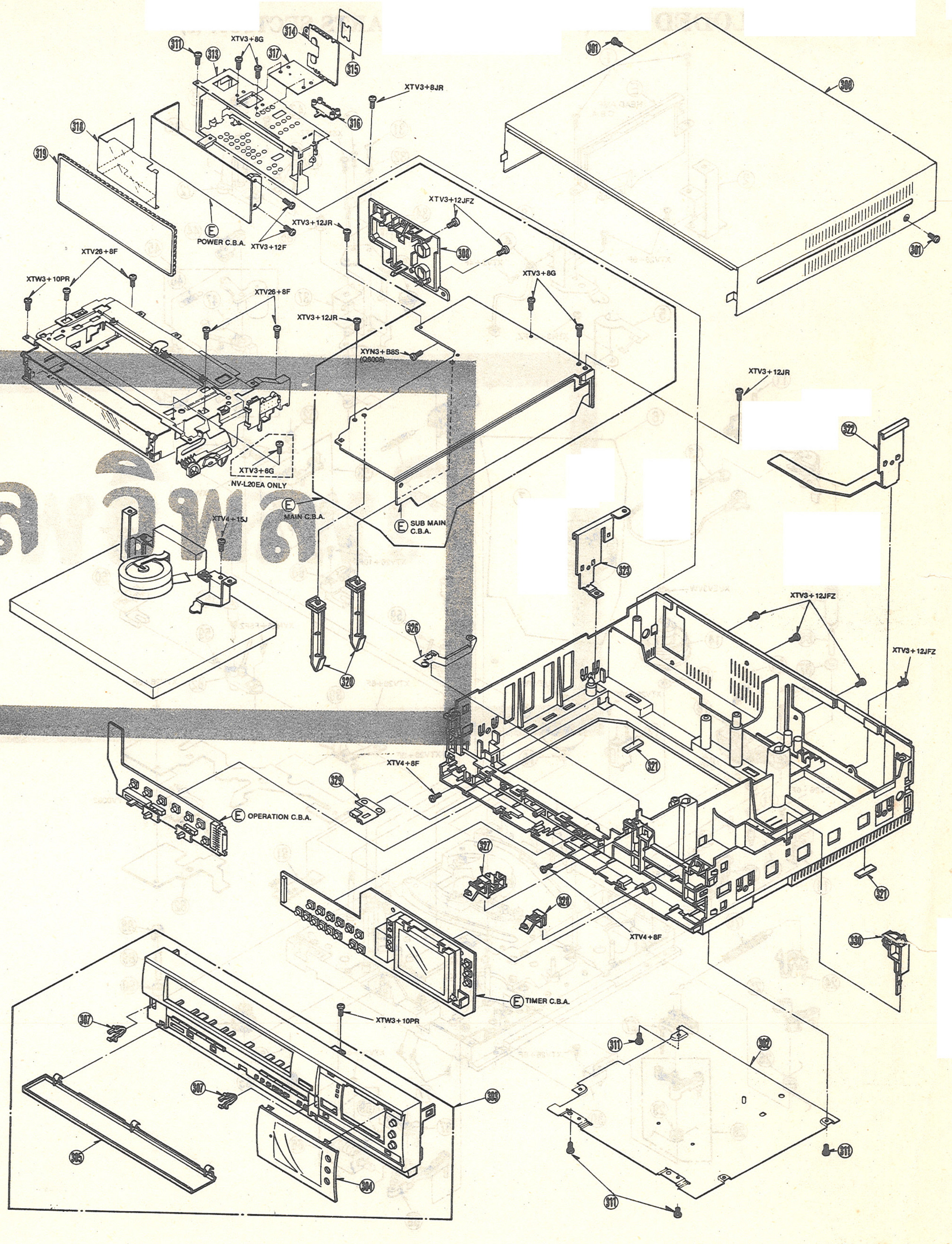
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

③ C[illegible]SETTE UP MECHANISM SECTION


XTB26+8G
201
XTB26+8G
XTV26+5F
240
203
208
202
209
210
212
213
214
215
Ⓔ PHOTO TR (S) C.B.A.
XTV26+8FR
216
217
218
XTV26+8FR
219
221
230
231
229
XTV26+8FR
232
233
234
XTV26+8FR
235
236

④ CASING PARTS SECTION


311
313
XTV3+8G
317
314
315
XTV3+8JR
316
301
300
301
318
319
Ⓔ POWER C.B.A.
XTV3+12F
XTV3+12JR
XTV3+12JFZ
308
XTV26+8F
XTW3+10PR
XTV26+8F
XTV3+12JR
XYN3+B8S (Q8008)
XTV3+8G
XTV3+12JR
XTV3+6G
NV-L20EA ONLY
Ⓔ MAIN C.B.A.
Ⓔ SUB MAIN C.B.A.
XTV4+15J
322
323
320
326
XTV3+12JFZ
XTV3+12JFZ
321
XTV4+8F
329
Ⓔ OPERATION C.B.A.
327
328
XTV4+8F
321
330
Ⓔ TIMER C.B.A.
XTW3+10PR
307
307
303
305
304
311
302
311
311

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